CALIFORNIA
OIL WORLD

PUBLISHED TWICE A MONTH
FOR TIMELY, COMPLETE
CALIFORNIA OIL NEWS COVERAGE

• FIRST ISSUE
JUNE, 1946
VOL. 39 • NO. 11
WHOLE NO. 1705

PETROLEUM PUBLISHERS, INC.
MEMBER AUDIT BUREAU OF CIRCULATIONS
WALTER C. MONROE—President and Editor
DAVIS E. BROWNE, Assistant Secretary

117 WEST NINTH STREET
LOS ANGELES 15, CALIFORNIA
KINZIE MILLER—Vice President
LARRY O. MILLER, Advertising Manager

New York Office: 17 E. 48th St., New York 17, N. Y.— Telephone: WIckersham 2-1127 — John H. Kunkel, Manager

California Oil World is published twice a month at 117 West 9th St., Los Angeles 15, California. Entered as Second-Class Matter, April 29th, 1944, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price $1 per year in U. S. and possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

June 15th, 1946
Telephone Number TUcker 2571

Washington Highlights

Latest move in the government's suit to wrest title to the nation's tidelands away from the states, being tried before the United States Supreme Court in a case filed by the Department of Justice against the State of California, has been an agreement whereby the government has withdrawn its motion to strike out the 800-page answer of the State of California to the original complaint, although the California answer is to remain on file with the Court.

The agreement was reached in a conference between Attorney General Tom Clark and Robert W. Kenny, California's Attorney General. The agreement and court order provide that California shall file a condensed version of its answer which eliminates the voluminous factual data, and that the United States Attorney General may not be required to admit or deny the truth of any of the facts stated in the original answer.

These facts, however, are to be considered by the court to the extent permissible by judicial notice, with the further proviso that California is to be permitted to offer proof of any of the facts contained in the original answer which are not the subject of judicial notice and which the court finds to be material to the case.

The tidelands case was filed at the direction of President Truman to finally determine the ownership of lands within the three-mile limit and reclaimed areas. California has contended from the start that these are a part of lands under the jurisdiction of the individual states and has been joined in this contention by nearly every other state in the Union.

When California, through Attorney General Kenny, filed the original answer to the government's suit it included a full history of tideland ownership dating back to before the Revolutionary War.

According to Kenny, the states have always owned the lands adjoining their borders and out to the three-mile limit. Up until the government's suit was filed this claim had been acknowledged by the Federal government in hundreds of administrative orders and decisions. A decision adverse to the state of California would not only affect oil deposits under these lands, but would completely disrupt present title to many docks and commercial establishments which have been constructed on reclaimed lands.

Announcement of the make-up and duties, as well as the restrictions to be placed on, the new petroleum industry committee has been held up since the last two weeks in May.

Originally it was planned to release the regulations under which the committee will operate as soon as the green light was turned on by the Department of Justice. However, Ralph K. Davies, former vice president of Standard of California and Deputy Petroleum Administrator for War until the demise of that agency, has decided that he prefers to hold the entire thing up until he has his committee completely organized.

The announcement has been expected daily for over two weeks, and the latest from the Interior Department is that the information will be issued any day. However, reports have been circulating around Washington that Davies is meeting strong resistance from the Justice Department on the membership of the committee.

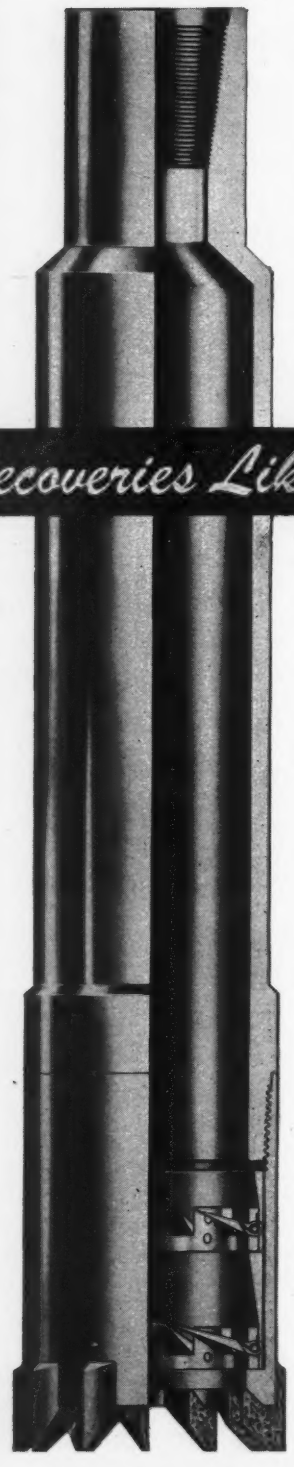
Well informed sources at the Interior Department disclose that out of a list of 72 names originally submitted to Justice for approval, more than 75 per cent were rejected.

While the Interior spokesman refused to state specifically the reason for the disapproval of the men named, he said that it was his understanding that the Attorney General "found the names objectionable from the standpoint of industry-government relations in the past."

He also revealed that a supplementary list of 15 names had been submitted to Justice and that only two individuals on this second list had been rejected for membership in the petroleum council.

The Justice Department refused to make any comment of the statements of the Interior Department official, but the inference was that the objections were based on anti-trust actions against the individuals, which have already been settled or are still pending in the case against the American Petroleum Industry and 21 major oil companies which was filed before the war, but postponed in order to permit the companies to do their utmost in the war effort.

(Continued on Page 30)



GLOBE JUNK CATCHER

Recoveries Like This...

TYPICAL OF GLOBE EFFICIENCY

The unretouched photograph above, graphically illustrates the efficient, positive performance of the Globe Junk Catcher recovering a catline hook. It will recover fish and junk of all descriptions as large as 77% of the hole size . . . in less time and at less cost.

Once the junk and fish are in the barrel, the unique, patented design of the Globe Junk Catcher holds it securely when coming out of the hole . . . it is impossible for the junk or fish to drop out.

The Globe Junk Catcher provides a simple, easy, fast and sure way to recover junk and fish. Ask any Globe office for complete details.

GLOBE OIL TOOLS COMPANY

LOS NIETOS, CALIFORNIA

Ventura, California — Bakersfield, California
Petroleum Service Company . . . . . Santa Maria, California
Hake Tool Company . . . . . Houston, Texas — New Iberia, Louisiana

Representative for Southern Texas, Louisiana and Mississippi

Manufacturers Warehouse Company, 1531 W. Main St. . . . . Oklahoma City, Okla.
Houston Oil Field Materials Company . . . . . Houston, Texas
Mountain Sales and Service . . . . . Cody and Casper, Wyo.; and Rangely, Colo.
T & R Machine Shop . . . . . Carmi, Illinois.

GLOBE JUNK CATCHER
—PATENTED—

Trends in Drilling Costs in California

By RALPH W. MARSHALL and
ROBERT C. SHARP
Drilling and Exploration Company,
Los Angeles

Introduction

The subject of Drilling Costs is one that should be of vital interest to everyone connected with the Petroleum Industry for in the final analysis the drilling of an oil well is fundamentally a problem in economics. This is true whether the well be 1,000 feet deep or 15,000 feet deep, and whether it is drilled in California or South America. Based upon past experience, it is possible to estimate, though perhaps with not too much accuracy, that it will cost so many dollars to drill a well, and that this well, if productive, will return so many dollars. Any change in drilling costs obviously affects this balance, as is indicated by the fact that many wells are being drilled today which would not have been economical to drill a few years ago. Likewise, with the introduction of more efficient equipment and better drilling methods, there will be wells drilled in the future which are not economical today.

With the thought in mind of the importance of drilling costs, let us examine the trends in drilling costs in California during the last nine years. We should like to make clear at this point that due to the difficulty in assembling the required information from the entire industry, and due to the limited time allocated to this study, this paper is being presented as a progress report and not as a final and conclusive summary. It is suggested that this study be continued and a further report be presented at some future meeting.

Also, we should like to point out that all of the companies which have furnished information on their drilling costs have requested that no specific reference be made to their figures, but that they be included with the general over-all totals.

Average Number of Rig Days—Wells of All Depths

Exclusive of the cost of site preparation, casing, and production equipment, there are two general factors which go to make up the cost of drilling an oil well. Number one is the operating **days**, and number two is the operating **cost** per day.

First, let us look at the over-all average of the number of operating days. Figure 1 represents the average of 1,187 California wells varying in depth from approximately 2,000 feet to 13,000 feet and includes all active areas during the nine years from 1936 to 1945. The 1,187 wells represented do not include wildcat or exploratory wells, but only those drilled in proven territory. Further, the days shown are total rig days, starting with the first day of rigging up and ending with the day that the oil is turned to the tanks. You will note that the average number of rig days has decreased from 126 in 1936 to 82 in 1945. You will also note that the number of days dropped very rapidly from 1936 to 1941, due primarily to more efficient drilling equipment and better drilling methods. From 1941, the first war year, the curve rises sharply to 1944. This rise was primarily due to the shortage of equipment, new and inefficient labor, and the other unusual factors caused by the dislocation of war. It is encouraging to note that the number of total rig days has gone down from 96 in 1944 to 82 in 1945. No doubt this trend will continue as more modern and efficient equipment becomes available and rotary crews return to their former high standards.

Average Operating Costs—Wells of All Depths

Next, let us see what has happened to operating costs during this same nine-year period from 1936 to 1945. Figure 2 is an average of 674 California wells of all depths and in all areas. Again, no wildcat or exploratory wells are included. Operating cost as shown on the curves consist of labor, repairs and supplies, depreciation of capital equipment, tool rental including bits, mud costs, overhead and all other charges which go to make up the total cost of operating a drilling rig. This does not include the cost of roads, sumps, derrick, casing, or any permanent well equipment.

You will note from the lower curve on Figure 2 that the average daily operating cost has risen from a total of $480.00 per day in 1936 to a total of $940.00 per day in 1945, an increase of almost one hundred per cent. It is also interesting to note that this rise has been almost constant, averaging approximately ten per cent each year. Some of the factors which have contributed to this steady increase are quite obvious, such as the increase in the cost of labor, material and services. Equally as important, though not as obvious, are the two items of depreciation of capital equipment and the operating cost of this equipment. Ten years ago a complete drilling rig, then considered adequate for drilling to 10,000 feet, could be purchased for some $90,000.00. Today, a modern 10,000 foot rig, complete with alloy steel drill pipe, will cost between $150,000.00 and $200,000.00 or about twice the cost ten years ago. The additional depreciation charge against this more expensive equipment and the higher operating cost due to the additional work being done per day, are two of the important factors contributing to the higher operating costs. These two factors have, however, led to an over-all saving since the introduction of modern and more efficient equipment has led to a reduction in the number of operating days. In other words, we are now **spending** more per day, but we are also doing more **work** per day.

Referring again to Figure 2, the upper curve shows the trend in **total** operating cost, which is the operating cost per day multiplied by the number of operating days. It may be seen that from 1936 to 1939, this total cost increased from $61,000.00 to $74,000.00, then dropped to a low

A Birthday for our Triplets

Back in 1907 a certain oil company, which we shall be too modest to name, pioneered the first service station in America.

In those days motoring was mostly dust, grime and break-downs. No motorist even dreamed of meeting anything but dirty work at *any* crossroads.

Even in 1914, when this same oil company launched the first service station system, motoring was about as comfortable as camel-riding.

But a certain philosophy was developing in those early days—a philosophy that took definite form with the birth of an integrated service station subsidiary in 1931. That, as you well know, was Standard Stations, Inc.

The philosophy had to do with "attitude" toward the customer. It is sometimes referred to now as our "Triplets," otherwise known as "C. S. C.," still otherwise known as Courtesy, Service, Cleanliness.

These Triplets are all of the same size and importance to us, to this very day, and, we trust, forevermore. At recent company meetings the virtues of "C. S. C." were extolled anew, and it was pointed out that there is only one word of which practically all the letters are the initials of our Triplets—and that word is "Success."

It has been just fifteen years since the now famous "C. S. C." policy was officially born. That's why we think of this as the birthday of our Triplets—grown in stature and maturity of purpose as becomes the passing of years. That's why we consider it an anniversary of note.

STANDARD OF CALIFORNIA

FIG. 1

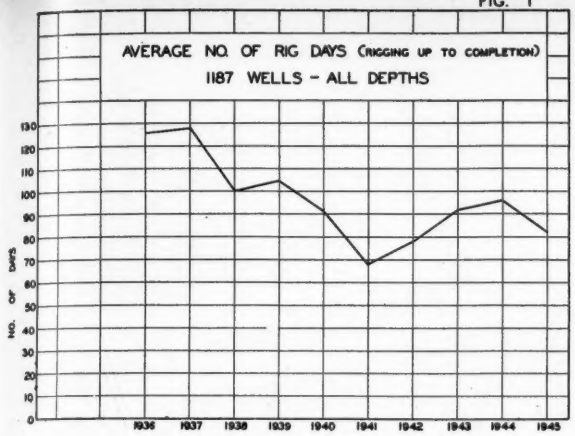

AVERAGE NO. OF RIG DAYS (RIGGING UP TO COMPLETION)
1187 WELLS - ALL DEPTHS
NO. OF DAYS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 2

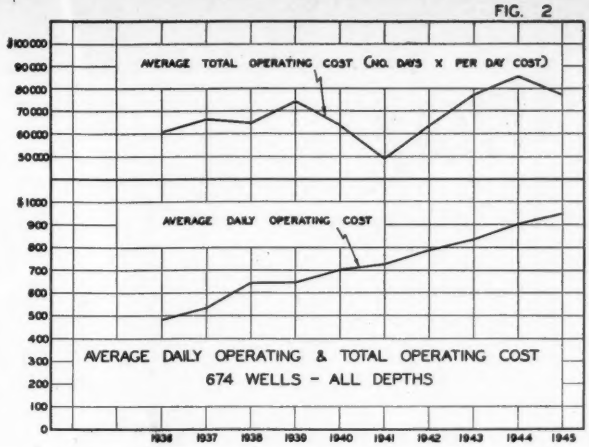

AVERAGE TOTAL OPERATING COST (NO. DAYS x PER DAY COST)
AVERAGE DAILY OPERATING COST
AVERAGE DAILY OPERATING & TOTAL OPERATING COST
674 WELLS - ALL DEPTHS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 3

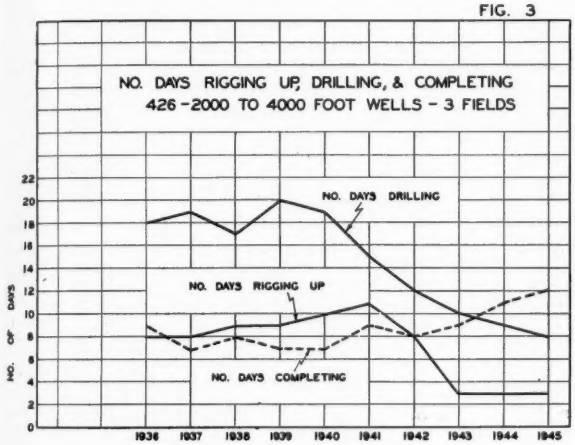

NO. DAYS RIGGING UP, DRILLING, & COMPLETING
426 - 2000 TO 4000 FOOT WELLS - 3 FIELDS
NO. DAYS DRILLING
NO. DAYS RIGGING UP
NO. DAYS COMPLETING
NO. OF DAYS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 4

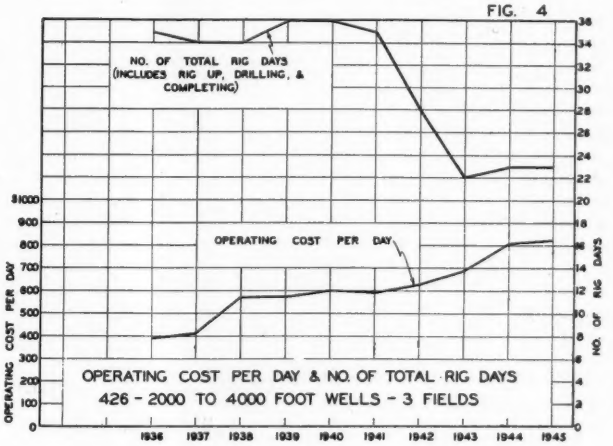

NO. OF TOTAL RIG DAYS (INCLUDES RIG UP, DRILLING, & COMPLETING)
OPERATING COST PER DAY
OPERATING COST PER DAY & NO. OF TOTAL RIG DAYS
426 - 2000 TO 4000 FOOT WELLS - 3 FIELDS
OPERATING COST PER DAY
NO. OF RIG DAYS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 5

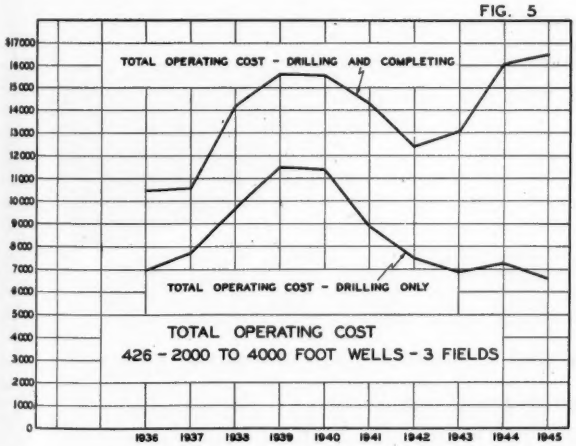

TOTAL OPERATING COST - DRILLING AND COMPLETING
TOTAL OPERATING COST - DRILLING ONLY
TOTAL OPERATING COST
426 - 2000 TO 4000 FOOT WELLS - 3 FIELDS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 6

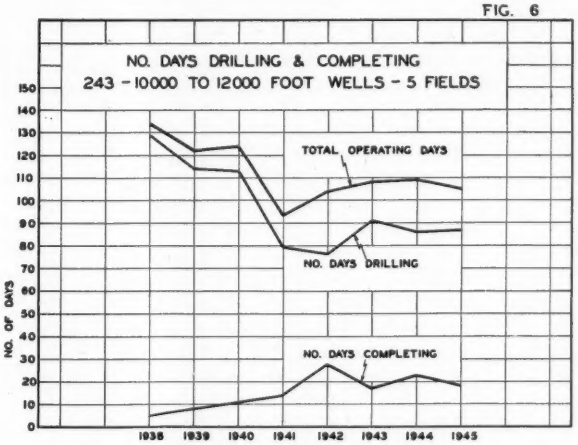

NO. DAYS DRILLING & COMPLETING
243 - 10000 TO 12000 FOOT WELLS - 5 FIELDS
TOTAL OPERATING DAYS
NO. DAYS DRILLING
NO. DAYS COMPLETING
NO. OF DAYS
1938 1939 1940 1941 1942 1943 1944 1945

FIG. 7

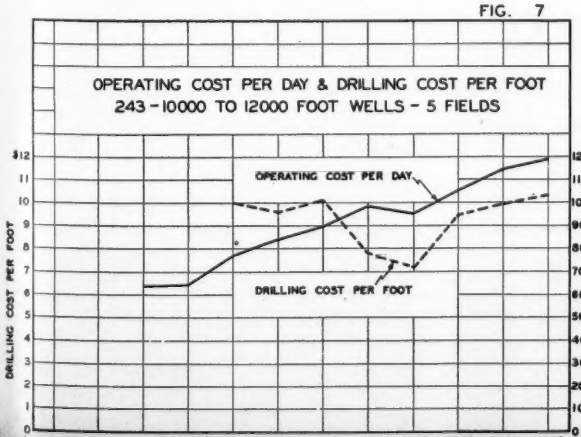
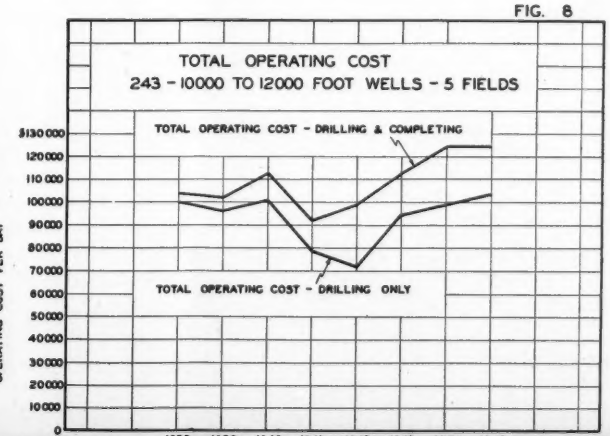
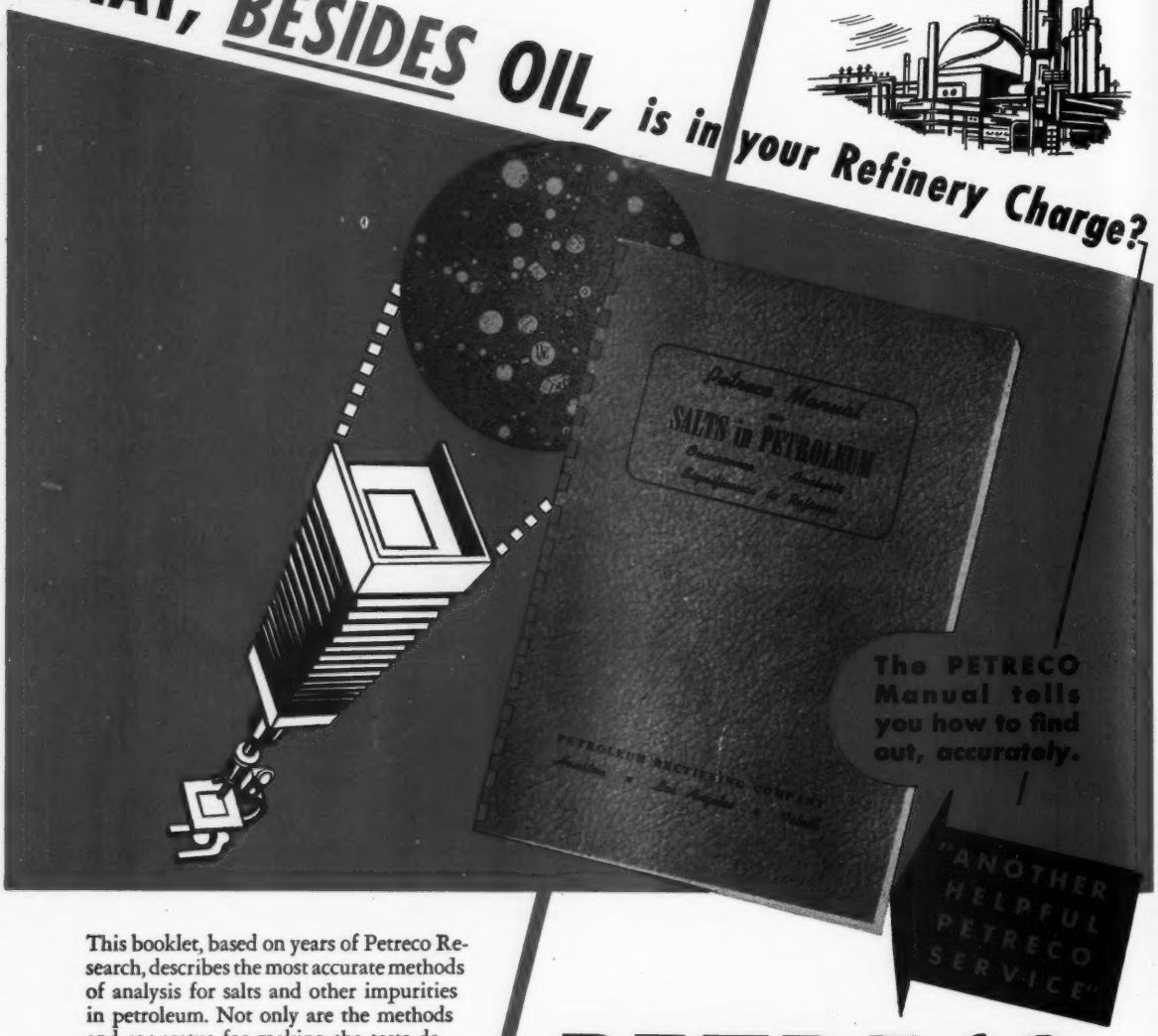

OPERATING COST PER DAY & DRILLING COST PER FOOT
243 - 10000 TO 12000 FOOT WELLS - 5 FIELDS
OPERATING COST PER DAY
DRILLING COST PER FOOT
DRILLING COST PER FOOT
OPERATING COST PER DAY

FIG. 8


TOTAL OPERATING COST
243 - 10000 TO 12000 FOOT WELLS - 5 FIELDS
TOTAL OPERATING COST - DRILLING & COMPLETING
TOTAL OPERATING COST - DRILLING ONLY

WHAT, BESIDES OIL, is in your Refinery Charge?


Petreco Manual
SALTS in PETROLEUM
PETROLEUM RECTIFYING COMPANY
The PETRECO Manual tells you how to find out, accurately.
"ANOTHER HELPFUL PETRECO SERVICE"

This booklet, based on years of Petreco Research, describes the most accurate methods of analysis for salts and other impurities in petroleum. Not only are the methods and apparatus for making the tests described, but also included is a fund of general information on impurities in crude oils and the character of problems involved in their determination. The "Petreco Manual on Salts in Petroleum" is available without cost or obligation at all Petreco headquarters. Just mail the coupon below to any of the offices listed, or ask your Petreco Service Engineer ... he will see that you get a copy.

PETRECO

DESALTING • *ELECTRICAL PROCESS* • DEHYDRATING

PETROLEUM RECTIFYING COMPANY
5121 South Wayside Drive, Houston 1, Texas
648 Edison Building, Toledo 4, Ohio
530 West Sixth Street, Los Angeles 14, Calif.
A division of Petrolite Corporation, Ltd.

The "Petreco Manual on SALTS IN PETROLEUM" was first published a number of years ago, then entitled "Determination of Salts in Crude Oils." The supply of the original publication and its reprints have long since been exhausted and the present revision has been prepared in response to many requests ...

★ Send me a free copy of "Petreco Manual on SALTS IN PETROLEUM"

Position.....

Name.....

Company.....

Address.....

of $49,000.00 in 1941. From 1936 to 1941, the five-year period just previous to the war, **daily** operating costs increased fifty per cent, but the **total** operating costs actually decreased approximately twenty per cent. This was due to the fact that the reduction in number of operating **days** more than offset the increase in per day costs. From 1941 to 1944, due to many factors occasioned by the war, the total operating cost rose from $49,000.00 to $85,000.00 or approximately 75 per cent. It is encouraging to note that the figure dropped to $77,000.00 in 1945, during a year in which we were still confronted not only with increasing costs, but also with continued material shortages and labor difficulties. As more and better material becomes available, and as the labor situation returns to normal, we may expect this downward trend to continue.

Analysis of Days and Operating Costs—Shallow Wells

So far we have examined the general trends for wells of all depths. Now let us consider wells of a specific depth. We have compiled figures on 426 wells drilled in California from 1936 to 1945 and varying in depth from 2,000 to 4,000 feet. These wells were drilled in three different fields. Figure 3, showing the total operating days, indicates that the number of days rigging up and the number of days drilling, have decreased to a very marked degree. However, the number of days spent in completion operation has risen during the same period. In fact, in 1945 these shallow wells were **drilled** in an average of only eight days while twelve days were spent in completion work. Probably the biggest factor which has contributed to both the reduction in days rigging up and days drilling has been the wider use of improved and more efficient drilling equipment in the form of portable derricks and modern power rigs.

Figure 4 indicates that operating costs have increased from approximately $400.00 per day to more than $800.00 per day, but that the total rig days, in spite of the increase in completion time, has decreased from an average of approximately 35 days to an average of 23 days.

Both of these factors are reflected in Figure 5 where we see that the operating costs of drilling **only** were approximately $7,000.00 in 1945, the same approximate total as in 1936, even though per day costs increased over one hundred per cent. During the same period from 1936 to 1945, the **total** operating costs increased from $10,500.00 to over $16,000.00. In other words, in wells of this depth, from 2,000 feet to 4,000 feet, more than half of the total operating costs are due to the time spent in completion operations.

Analysis of Days and Operating Costs—Deep Wells

We have briefly examined the trends in drilling costs in 2,000 to 4,000 foot wells. Now let us move to the other end of the scale and consider wells from 10,000 to 12,000 feet. The data received consist of information on 243 wells in this depth range from five different proven fields.

Figure 6 indicates, as in the case of the shallow wells, that the **total** operating days have decreased in the last eight years, and that this is in spite of an increase in the number of days spent in completion work.

In other words, the **decrease** in the number of days actually drilling has more than offset the **increase** in the number of days of completion operations. In addition to the introduction of modern heavy equipment, perhaps the most important factor contributing to the decrease in drilling days on these deep wells has been the improved technical supervision resulting in better mud control, fewer fishing jobs, and more efficient operation of the drilling string.

Figure 7 shows that the operating cost per day of the equipment used on our deepest wells has increased from $620.00 per day to almost $1,200.00 per day—again, almost a two-fold increase. Due to the reduction in the number of actual drilling days, the cost per feet of hole drilled has shown no increase. Indeed, during the years 1941 and 1942 the cost per foot actually decreased. As we again obtain adequate equipment and more experienced and competent labor, we may assume that the drilling cost per foot will continue to show a downward trend. Considering **total** operating costs of these deep wells, which of course includes the cost of completion work, we see that the over-all operating cost has increased from $104,000.00 in 1938 to $125,000.00 in 1945.

Comparing only drilling operations, **exclusive** of completion work, we find that the average cost to drill a deep well was about the same in 1945 as it was in 1938. If the production engineers of the industry can devise methods of reducing the number of days required to complete these deep wells, then the **total** operating costs will also be reduced. Much of this completion work is in the experimental stage, as for example, the use of special muds, and as we gain more experience in these fields, the time spent in the application of these methods may be expected to decrease.

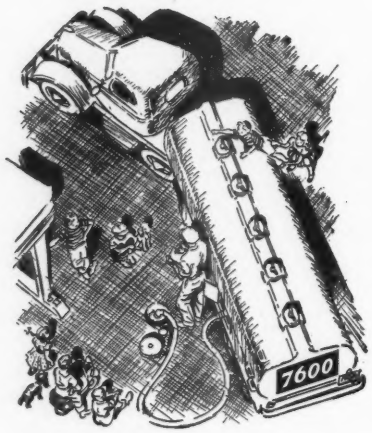
Detailed Analysis of Costs —7,000 Foot Walls

So far we have considered operating costs and drilling time in rather general terms. It may be of interest to break down operating costs and see what has happened during the last nine years to some of the principal items which go to make up the total. Figure 9 is a summary of the operating costs per day for 36 wells drilled from 1937 to 1945 and all located in one proven field. These wells vary in depth from 6,000 to 8,000 feet. It should be borne in mind that these figures are for only one field and, there being many variables in the cost of drilling a well from field to field and from well to well within a single field, it may be misleading to draw a general conclusion from these figures.

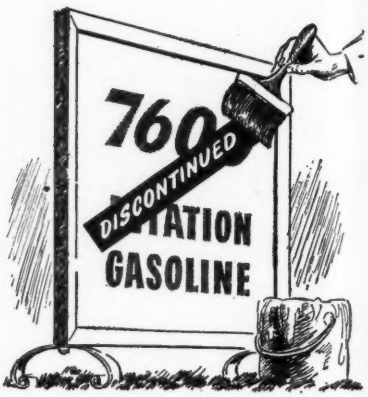
We note that labor costs have increased approximately 70 per cent from 1939 to 1945. Overhead has increased approximately 200 per cent. Tool rental has remained almost the same. Mud costs increased sharply to 1944. Repairs, supplies, and depreciation increased 100 per cent from 1937 to 1942, but have decreased sharply since then. Since depreciation of capital equipment is perhaps the biggest percentage of this item, and since this depreciation is primarily an individual company tax matter, this marked decrease in this item is not common to the entire industry.

Maybe you were satisfied—but we weren't

1. Immediately after V-J day military demand for high-quality gasolines fell way off. Consequently most oil companies were able to put out better civilian gasolines than motorists had ever experienced before. This made it pretty easy to satisfy the customers. People were delighted with the new postwar products.



2. Under the circumstances, you'd hardly expect an oil company to come out with a still better gasoline. But less than a month after Union Oil had introduced postwar 76 and 76-*Plus*, we brought out 7600 Aviation Gasoline—a fuel we had been delivering the Armed Forces for use in non-combat aircraft.



3. We introduced 7600 at the same price for which it sold at airports—3½¢ more than Ethyl. It sold like hotcakes. Unfortunately, however, it hadn't been on the market a month before O.P.A. amended its regulations in an attempt to make us sell the product at the prevailing price of Ethyl. Since this was impossible we had to take 7600 off the market.

4. However, that's another story. The important point is this: we made 7600 available *on our own initiative*. The customers didn't demand it. Conditions didn't make it necessary. But we knew that even though the public was more than satisfied with our present gasolines, a still better one would win us customers. And we were in *competition*.

5. If the oil business had been a monopoly – private or governmental – this wouldn't have been the case. For there's no incentive to go after more customers *when you already have them all*. But because we didn't have all the customers, we had a very good reason for introducing an improved product.

6. All of which goes to prove, we think, that the only way you can guarantee *maximum progress* in an industry is to have an economic system that guarantees *maximum incentives*. Our American system, with its *free competition*, provides these to a degree no other system has ever approached.

UNION OIL COMPANY

OF CALIFORNIA

This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Bldg., Los Angeles 14, Calif.

AMERICA'S *FIFTH* FREEDOM IS FREE ENTERPRISE

FIG. 9

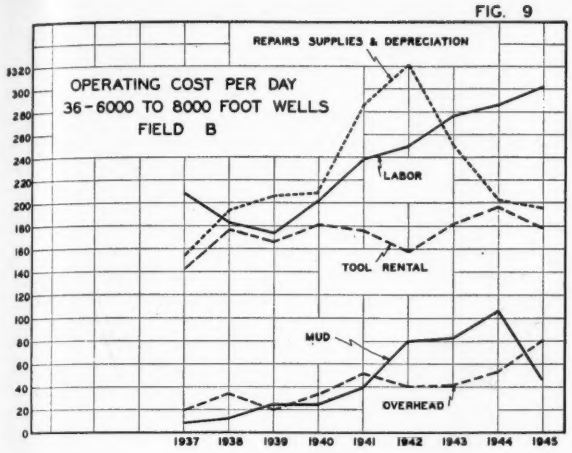


FIG. 10

OPERATING COSTS PER DAY - 1937 & 1945
36 - 6000 TO 8000 FOOT WELLS - FIELD B

	1937		1945	
	AMT.	PERCENT	AMT.	PERCENT
LABOR COST	$209	36 %	$303	36 %
REPAIRS SUPPLIES AND DEPRECIATION	155	27	148	18
TOOL RENTAL	142	25	179	21
MUD COSTS	8	1	47	6
OVERHEAD	20	3	81	10
TRUCKING	28	5	50	6
MISCELLANEOUS OTHER	18	3	28	3
TOTAL	578	100	834	100

FIG. 11

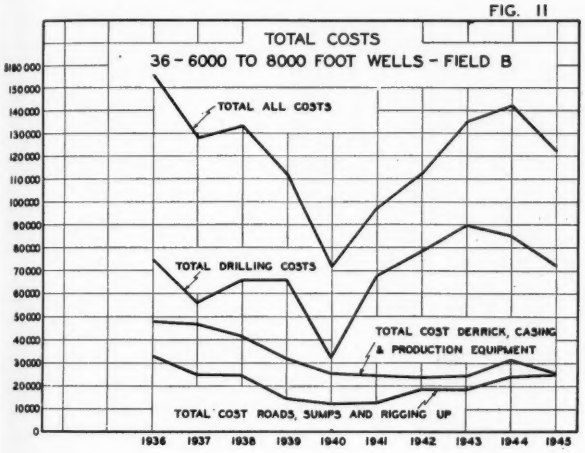

TOTAL COSTS
36 - 6000 TO 8000 FOOT WELLS - FIELD B
TOTAL ALL COSTS
TOTAL DRILLING COSTS
TOTAL COST DERRICK, CASING & PRODUCTION EQUIPMENT
TOTAL COST ROADS, SUMPS AND RIGGING UP
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945

FIG. 12

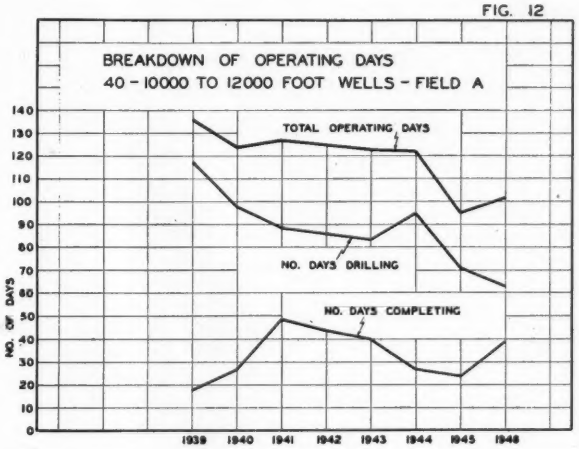
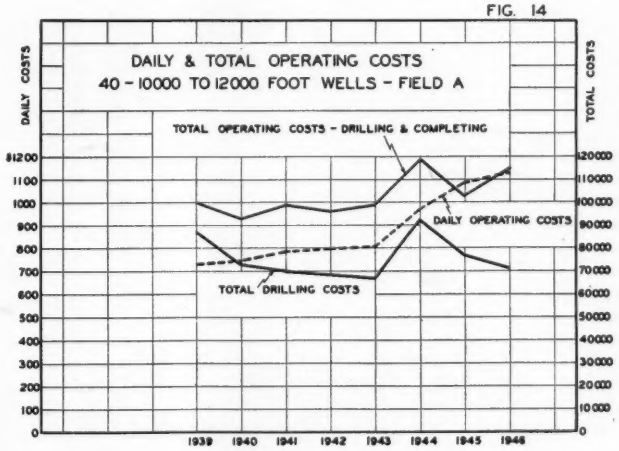

BREAKDOWN OF OPERATING DAYS
40 - 10000 TO 12000 FOOT WELLS - FIELD A
TOTAL OPERATING DAYS
NO. DAYS DRILLING
NO. DAYS COMPLETING
NO. OF DAYS
1939 1940 1941 1942 1943 1944 1945 1946

FIG. 13

OPERATING COSTS PER DAY
40 - 10000 TO 12000 FOOT WELLS - FIELD A

	1939		1945	
	AMT.	PERCENT	AMT.	PERCENT
LABOR	184	23	268	28
REPAIRS SUPPLIES & DEPRECIATION	208	30	342	35
TOOL RENTAL	94	14	110	11
MUD COSTS	88	13	38	4
FUEL AND WATER	59	8	47	5
OVERHEAD	50	7	94	10
MISCELLANEOUS OTHER	37	5	75	7
TOTAL	700	100	974	100

FIG. 14


DAILY & TOTAL OPERATING COSTS
40 - 10000 TO 12000 FOOT WELLS - FIELD A
TOTAL OPERATING COSTS - DRILLING & COMPLETING
DAILY OPERATING COSTS
TOTAL DRILLING COSTS
DAILY COSTS
TOTAL COSTS
1939 1940 1941 1942 1943 1944 1945 1946

The breakdown of operating costs may further be analyzed in the form of a table as shown in Figure 10 which compares the various items of operating cost in the two years 1937 and 1945. It's interesting to note that labor costs have remained constant at 36 per cent of the total. Repairs, supplies and depreciation have decreased from 25 per cent to 21 per cent, mud costs increased from 1 per cent to 6 per cent, and overhead showed the most marked increase from $20.00 per day or 3 per cent, to $81.00 per day or 10 per cent. This increase in overhead is no doubt largely due to increased supervision which, in turn, has resulted in more efficient operations.

Figure 11 shows the three principal items which go to make up the **total** over all costs of these 36 wells. The cost of site preparation, including roads, sumps, and rigging up, decreased 50 per cent in the years just previous to the war, but has now risen again to approximately

"Enough said!"

Specify

PATTERSON-BALLAGH

A DIVISION OF BYRON JACKSON CO.

"Best Bet Yet"

CASING PROTECTORS

Main Office:
1900 E. 65th St.
LOS ANGELES 1

★

Mid-Cont. Dist.:
P. O. Drawer 2198
HOUSTON 1

★

Export:
92 Liberty St.
NEW YORK 6

★

Rocky Mt. Dist.:
1621 E. Yellowstone
CASPER, WYOMING

★

Export:
210 Post Street
SAN FRANCISCO 8

the same 1936 figure of $25,000.00. The total cost of the derrick, casing, and production equipment has decreased from an original figure of $48,000.00 to approximately $26,000.00, due largely to a simplification of the casing program.

Actual **drilling** costs in 1936 averaged $75,000.00, decreased in 1940 to a low of $34,000.00, and then showed a rapid increase in 1943 to a high of $90,000.00. In 1945 drilling costs were approximately the same as in 1936, or $75,000.00, in spite of increased operating costs. This reduction is due to a decrease in the number of drilling days.

The top curve on Figure 11 is a grand total of the three cost factors shown below and indicates a reduction from $156,000.00 in 1936 to $122,000.00 in 1945.

Detailed Analysis of Costs and Days 11,000' Wells

As a final group, let us consider detailed cost information on forty deep wells varying in depth from 10,000 to 12,000 feet. These wells were all drilled in one proven field during the years 1939 to 1946.

Again, we wish to caution you, as in the case of the analysis of the last group of wells, that this is information from **one** field only. However, it is in the main typical of all fields of this depth.

Figure 12 shows very markedly that the number of drilling days has decreased almost fifty per cent from a total of 118 in 1939 to 62 in 1945. Contrary to the general trend in the industry, the number of days spent in completion work in this field increased sharply from 1939 to 1941 and then decreased to 1945. It should be noted that this downward trend in completion time has reversed itself during the current year and is now on the increase.

As in the case of the 6,000 to 8,000 foot wells we have broken down daily operating costs in the form of a table, and it is interesting to note how this table differs from that of the shallower wells. In this case, instead of remaining constant at the same percentage, labor has increased from 23 per cent to 28 per cent of the total. Likewise, instead of a decrease from 27 per cent to 18 per cent in the item of repairs, supplies, and depreciation, this item has increased from $208.00 per day to $342.00 per day, or from 30 per cent to 36 per cent of the total. Our analysis of the cause of this increase indicates a substantial expenditure for new capital equipment by this company and a consequent increase in the item of depreciation.

Tool rental per day decreased from 14 per cent to 11 per cent—approximately in the same ratio as in Figure 10. In the case of mud costs, we have a reduction from $88.00 per day, or 13 per cent, to $38.00 per day, or 4 per cent of the total. This, again, is in direct contrast with the increase from 1 per cent to 6 per cent as shown in Figure 10. It would appear that in this deep field the mud costs in 1939 of $88.00 per day were perhaps out of proportion and that the present costs of $38.00 per day are now more nearly normal. In the case of the 7,000 foot wells the mud costs of only $8.00 per day in 1937 were perhaps too low for good operation, and in 1945 were more in line at $47.00 per day.

Figure 14, our final chart, summarizes the data on these forty deep wells and indicates that the daily operating costs have followed the general trend of the industry and risen from $725.00 per day in 1939 to $1,125.00 per day in 1945. The total **drilling** cost, in spite of this increased operating cost, has decreased from $87,000.00 to $71,000.00, which is again due to the reduction in drilling days. **Total** operating costs, including the work of well completion, have risen from $100,000.00 in 1939 to $116,000.00 in 1945, an increase of 16 per cent.

Conclusion

To summarize then, we have presented in graphical form the data now available on the Trends in Drilling Cost in California. We believe that the trends indicated in this report are representative of California operations.

We have seen that the over-all daily operating cost of running a drilling rig has, regardless of depth, approximately doubled from the year 1936 to the year 1945. Further, the data have shown that the number of actual drilling days, exclusive of days spent in completion work, has decreased almost 50 per cent. With an approximate 100 per cent increase in daily costs and a 50 per cent **decrease** in drilling days, the average actual cost of making hole was about the same in 1945 as it was in 1936.

During this same period, the number of **total** operating days, including completion, has only decreased approximately 35 per cent. This reduction in total days has not been sufficient to offset the increased operating cost and, as a result, the total **over-all** operating cost has increased some 25 per cent.

Most of the factors contributing to the increased operating costs discussed in this report are largely beyond our control. It becomes obvious that our problem is that of a further reduction in the time spent in the various drilling operations from rigging up through final completion. We suggest that a further study be made along the following lines: First, a wider interchange of information regarding improved drilling practices; second, further cooperation between manufacturers and operators in the development and application of more efficient drilling equipment; third, a study of improved means of maintenance of drilling tools and equipment; and fourth, that the results of these studies be made more available to the industry.

Presented before
Pacific Coast District
Division of Production
American Petroleum Institute
Los Angeles, California

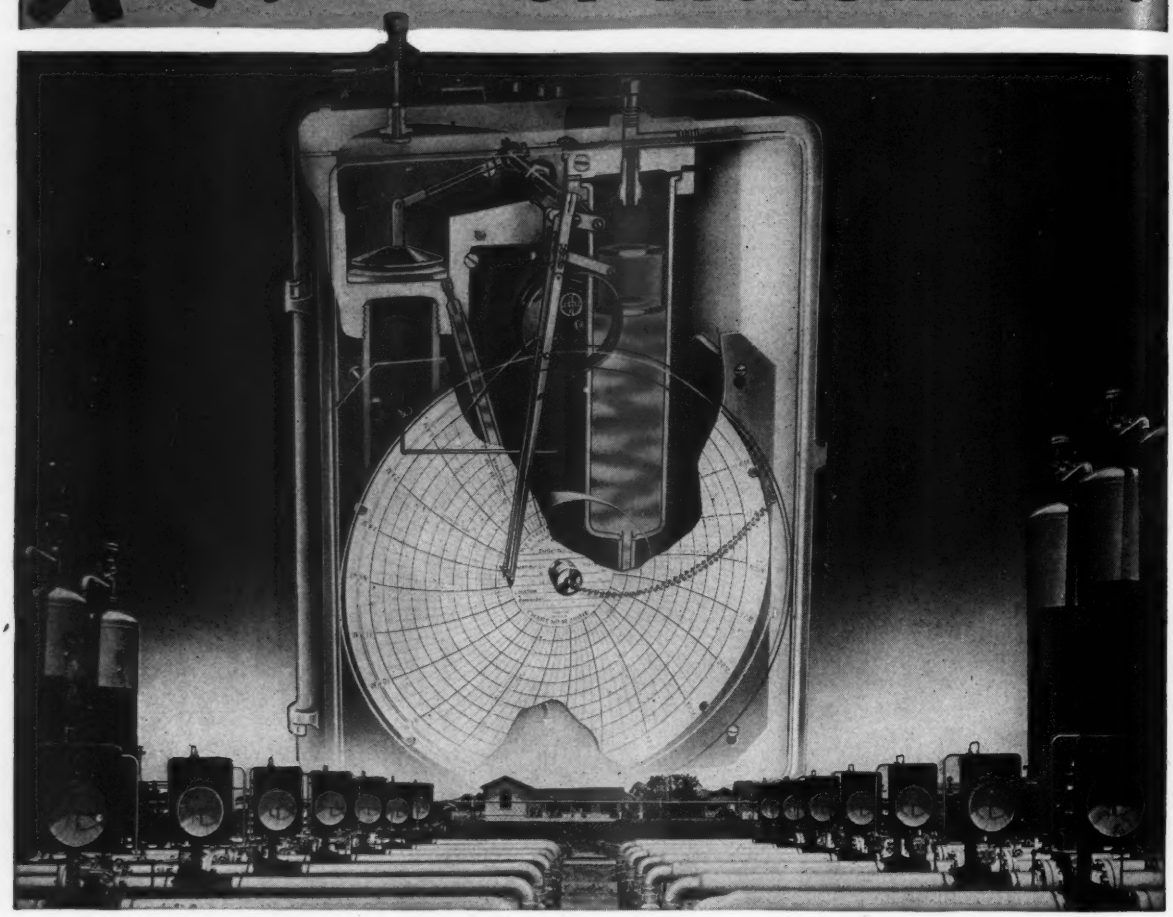
Trico Try Quits Search

Following an electric log run, which apparently gave but little encouragement, Pacific Central Oil & Gas Co. has abandoned Finch No. 14 in Sec. 32-23s-23e in the Trico area, Tulare County, slightly below 3400 ft.

Cuyama Job Still Tests

With the hole plugged back from 2730 ft. to 1740 ft., Halvern L. Norris' Cuyama Rancho No. 2 in Sec. 25-11n-28w, San Luis Obispo County, is ready to test higher showings.

X-RAY OF ACCURACY!



EXAMINE WHAT IT IS that makes AMERICAN orifice meters appeal to the man out in the field . . . the meter engineer who sees the difference between instruments in terms of the number of adjustments and the maintenance necessary to *keep* them accurate!

Notice the *simplicity* of AMERICAN meters . . . There's only one moving part between the surface of the mercury and the chart record.

Note too the large float area, with wide clearances eliminating loss of accuracy due to dirt collecting on the mercury . . . the low angle of travel of the float . . . and the small angular travel of the static tube. They make the AMERICAN meter a *practical* instrument, insuring not only accuracy but ruggedness.

Complete data will be mailed on request. Also, information on popular Round Case Indicating Flowmeter.

AMERICAN METER COMPANY

INCORPORATED (ESTABLISHED 1836)

Albany • Baltimore • Birmingham • Boston
Chicago • Dallas • Erie • Houston
Kansas City • Los Angeles • New York
Philadelphia • Pittsburgh • San Francisco • Tulsa

Pumping Hot Mud

Deep drilling has brought to light many problems which were non-existent in shallow holes. One of these problems is the circulation of hot muds in the temperature range 150°-190°F.

As a mud increases in temperature two difficulties must be met. The first concerns the operation of the mud pumps; while the second concerns the effect of temperature on the mud itself. Pump troubles often increase to a serious extent as the temperature approaches the boiling point of water. Liner-packings, pistons and valves can suffer to the point of requiring frequent shutdowns for adjustments or replacements. Some drilling jobs have had as much as 15 percent downtime on pump trouble alone when the mud temperature was high.

At elevated temperatures the mud itself becomes a difficult variable to control. A high viscosity indifferently affected by chemicals frequently adds to the burden borne by the pumps.

Pump Design Important

Manufacturers have long been aware of the heavy duty requirements for mud pumps and are constantly improving their equipment. One manufacturer has developed a unit built of forged steel to provide strength without the use of steel or cast iron castings. Removable crosshead shoes and guides; heavy duty roller bearings on both shafts; wide-face Herringbone gears of heat-treated alloy steel; and double extended pinion shafts permit power to be applied from either side.

A pinion shaft completely removable without disturbing the main gear assembly; circulating oil bath; heavy-duty needle-type roller bearings on the crosshead pins; a threaded fluid-end piston rod stuffing box gland of special design; central lubrication of the shaft bearings; and a positive exclusion of mud, water and other foreign materials into the gear case or crosshead compartments add noteworthy structural features.

This type of pump, in the 7¾ x 16 size, is built to withstand 6,000 pounds actual test pressure, and is recommended for 3,000 pounds working pressure with a 330 horsepower input rating at 55 RPM. Smaller sizes (7¼ x 12 and 7¼ x 14) are also built.

Chain-Drive Pumps

Another manufacturer supplies a chain-drive 6¾ x 12½ mud pump for lower circulating pressures. It has a rated capacity of 800 pounds with full size liners and a 300 horsepower rated capacity at 70 strokes per minute.

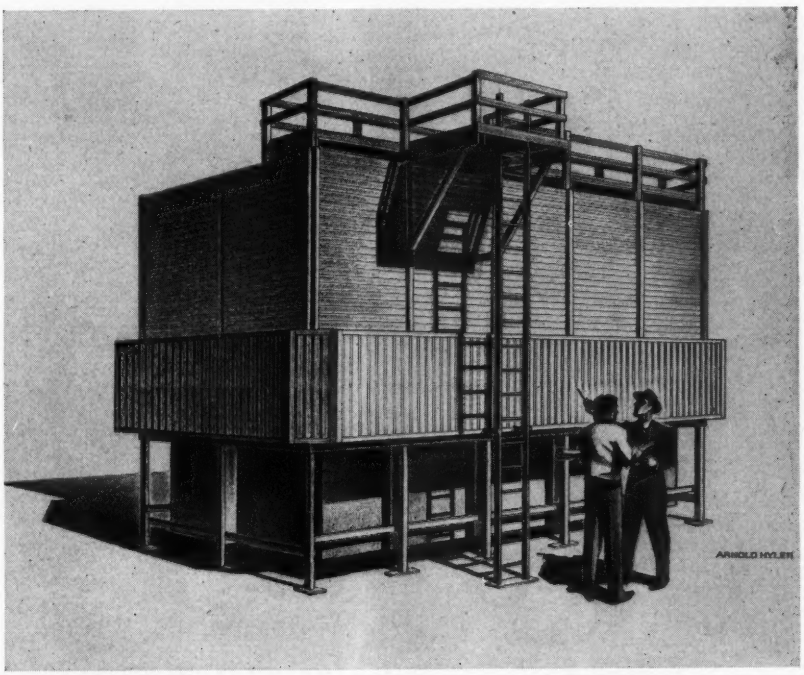
A quadruple diamond chain runs in an oil bath and is rated at 300 horsepower capacity with a 6 to 1 safety factor. The crankshaft with the main bearings are on the outside of the frame. The connecting rod bearings are just inside the main bearings, with the chain and sprocket drive in the center of the crank.

Reduction of Suction Lift

When hot mud is to be pumped, two difficulties must be controlled. One is that of maintaining satisfactory suction conditions in the pump; while the other is that of using proper metals, packings, etc., to resist the mud temperature. Due to the tendency toward the vaporization of hot muds under the reduced pressures in the suction system, it is imperative that the suction head be reduced to a minimum and a positive pressure applied to the suction through the use of mud tanks. Regardless of the type of pump used, the liners should be filled at each stroke of the piston otherwise the pump will knock and cause water hammer. The fluid end should be well designed.

Reduce Suction Lift with Increasing Temperature

As the temperature of the mud entering the pump is increased the actual suction lift should be reduced. As one author states the requirement in terms of water: "The suction action of a pump is produced by the atmosphere resting on the surface of the water in the well (or mud in tank or pit . . . Ed.) and forcing the water into the pump chamber after the plunger has created a vacuum in the latter. The height of water column sustained by the atmosphere depends upon the temperature of the water. (Various values in relation to temperature are given in Table 1 . . . Ed.)



Portable Mud Cooler, which can be broken down into sections and moved to a different location. Steel mud tank is shown at bottom.

"Maybe we shoulda got a Fluor Cooling Tower* after all."

The surest way to satisfaction is to specify FLUOR *Cooling Towers to begin with. You're always sure with* FLUOR.

THE **FLUOR** CORPORATION, LTD., 2500 South Atlantic Boulevard, Los Angeles 22, Calif.
NEW YORK • PITTSBURGH • KANSAS CITY • HOUSTON • TULSA • BOSTON

ENGINEERS • MANUFACTURERS • CONSTRUCTORS

TABLE 1
SUCTION LIFTS
(After Nickel)

Temp. Deg. F.	Absolute press. in feet: One atmosphere in feet of water column	of water column at which water boils	Theoretical Suction lift	Actual Suction: Lift	Head
60.	34.	0.6	33.4	22.	—
100.	34.2	2.2	32.	13.	—
140.	34.4	6.8	27.6	4.	—
160.	34.5	11.2	23.3	0.	0.
180.	34.7	18.	16.7	—	5.
190.	35.	22.3	12.7	—	7.
212.	35.4	35.4	0.	—	12.

"To lift water to these heights by suction (Table I) would require a perfect vacuum which is not possible to attain because the water boils before this condition is reached and the space becomes filled with vapors. The boiling point varies with the temperature, and the absolute pressure corresponding to the boiling point gives a value for the theoretically attainable suction lift."

The values in Table 1 are of course for water and further reduction should be made in the actual suction lift for mud depending on the mud weight and viscosity. From a study of the table it will be noted that there is a definite limitation on any pump to handle hot mud. As there is a definite relation to the height of actual suction lift and the temperature, weight and viscosity of the mud being pumped, some means must be used to make the installation so that these different conditions will be properly coordinated.

Where the topography will permit, a mud tank can be used to advantage in place of a mud pit. Where a mud tank is used, the pump should be located at the lowest practical location so that the mud returns from the well will flow by gravity to the mud tank. Pump suction should be taken as near as possible to the bottom of the tank.

Type of Metal Pump Parts

Some pump designers believe that, regardless of temperature, hard rods and liners are to be preferred in mud pump operation. The argument is advanced that the extra length of service obtained from hard rods and liners is more than enough to make the operation profitable when compared with soft liners and rods.

Pump Packings Important

Regardless of the type used, the pump should be in good condition throughout with tight valves, pistons, stuffing boxes and all joints. The flexible sealing member on the mud valves, mud pistons and piston rod packing should be of a material to resist the anticipated temperature.

Difficulties can arise with the plastic packings used behind the liner, on the piston and on the valves. Where no oil is present some pinions have it that natural rubber is the best material for these parts. In the presence of any oil, a synthetic rubber such as Hycar is often recommended. Neoprene is believed to be of debatable value in the presence of water at high temperatures as it has a high rate of water absorption.

Mud Cooling

Attention is now being given to ways and means of reducing the temperature of the mud itself by surface cooling. This not only eases the load on the mud pumps but makes the control of the properties of the mud an easier matter. Various ways of cooling have been tried. Some are simple arrangements of wide troughs over which the mud flows before reaching the mud pit. The increased surface exposed to the atmosphere brings about some cooling, air temperature permitting. Another procedure consists of pumpnig mud to the top of a cascade and causing it to spill down into the pump pit. This causes some mud-cooling and aids in degasification. Under critical conditions cracked ice has been put into the mud pit from which the pumps take suction. This procedure however is costly, relatively inefficient and adds water to the mud at a time when it may not be desired.

Mud Cooling Tower

An interesting development has been the design of a cooling tower for cooling mud. It accomplishes this by means of a series of sprays arranged to induce a draft of air

Heavy-duty mud pumps are now available for any field condition. Hot muds or heavy viscous muds can be circulated if the pump parts are of the right materials and proper suction conditions are provided and maintained.

EXPANSION...

highlighted by SERVICE

WHITE TRUCK DISTRIBUTORS
PACIFIC COAST REGION

WASHINGTON
Murphy White Trucks, Seattle
Jones White Truck Co., Spokane
McCoy Auto Company, Vancouver

OREGON
Gunderson Brothers Equip. Corp., Eugene
Walker's Trailer and Tire Service, Portland
West-Hitchcock Corporation, Klamath Falls

CALIFORNIA
Ball Motor Company, Sacramento
Jas. S. Cloney & Sons, Eureka
Miller Motor Company, Santa Rosa
Master Brake Service, San Luis Obispo
Southern Garage, Bakersfield
Cochran and Nichols, Ontario
J. R. Townsend Co. Inc., San Diego
Sawyer Motor Comapny, Long Beach
Connell Motor Truck Company, Stockton
Fresno Trailer Company, Fresno
Henwood Motor Company, San Jose
P. E. Van Pelt, Oakdale
Routzan White Truck Sales, Oakland

IDAHO
Logsdon Motor Company, Boise

UTAH
Lindner and Wood, Salt Lake City

MONTANA
Nybo and Company, Missoula

NEVADA
Dennison Tractor & Supply Co., Reno

ARIZONA
Truck Equipment Co., Phoenix

HAWAII
Schuman Carriage Company, Honolulu

—in addition, more than forty White Truck Dealers serve White owners in other key Pacific Coast communities.

The increasing demand of truck owners everywhere for White Super Power . . . based on its extra performance, dependability and low cost maintenance over tremendously high mileages . . . has created the need for an expansion of production facilities and a program is underway to double White's output of trucks and busses.

White has always fully appreciated the importance of complete and dependable service facilities to truck owners throughout the nation. And in preparation for its increased production, White has modernized and is increasing the number of White Service Stations. In them you will find skilled mechanics, special testing devices, modern repair machines and factory methods.

In fact, the successful experience of owners with White Personalized Service during the critical war years is the reason why the Scientific Maintenance methods it makes possible will keynote White's expansion program now.

THE WHITE MOTOR COMPANY • Cleveland
Pacific Coast Branches: Portland, San Francisco, Los Angeles

White

FOR MORE THAN 45 YEARS THE GREATEST NAME IN TRUCKS

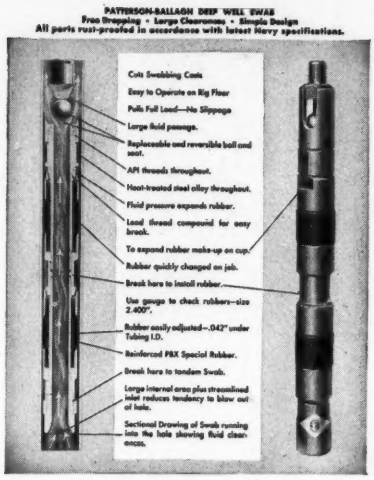
to flow through the apparatus, thus avoiding the use of a fan. Also, it is not dependent upon the wind for performance. The sprays are so designed that the mud is jetted into the air stream at a high velocity, breaking it up into small droplets and obtaining maximum contact with the air. The cooling is accomplished by the latent heat effect of water evaporating on the surface of the droplets. The latent heat effect accounts for about 80% of the cooling, while the remainder is due to the sensible heat transfer by conduction. The small amount of water lost by evaporation is made up by adding water to the mud before it is pumped to the cooling tower. The sprays in the cooling tower assure a uniform mixing of the mud.

In design the cooler is simple. There is reportedly nothing to become clogged or fouled. The orifices in the nozzles are large enough to pass cuttings, and even small rocks, without fouling. There are no slats or pipes for mud to collect on, which might interfere with the operation of the unit. Being simply constructed, the unit is described as being readily dismantled for moving to a new location at the completion of the job.

Several of these coolers are in service in the Pacific Coast area. The claim has been made that the cost of cooling mud by this device has been so reduced that the equipment cost has been paid off, in certain cases, in one or two weeks of operation. In one case a mud temperature of 195°F was reduced to 160°F. The temperature could have been lowered further but the 35°F drop enabled satisfactory mud control and pump performance.

Deep Well Swab

The latest oil tool to be perfected by Patterson-Ballagh Engineers is the Deep Well Swab. Patterson-Ballagh was prompted to go into swabbing because of the ever changing needs of the oil industry. A long time has been spent in experiments, engineering and tests to bring a really efficient Swab to the industry. A study of extreme depths


PATTERSON-BALLAGH DEEP WELL SWAB
Free Dropping • Large Clearances • Simple Design
All parts rust-proofed in accordance with latest Navy specifications.
Cuts Swabbing Costs
Easy to Operate on Rig Floor
Pulls Full Load—No Slippage
Large fluid passage.
Replaceable and reversible ball and seat.
API threads throughout.
Heat-treated steel alloy throughout.
Fluid pressure expands rubber.
Lead thread compound for easy break.
To expand rubber make-up on cup.
Rubber quickly changed on job.
Break here to install rubber.
Use gauge to check rubbers—size 2.400".
Rubber easily adjusted—.042" under Tubing I.D.
Reinforced PBX Special Rubber.
Break here to tandem Swab.
Large internal area plus streamlined inlet reduces tendency to blow out of hole.
Sectional Drawing of Swab running into the hole showing fluid clearances.

indicated the need for a Swab which could pull both light and heavy loads through long strings of tubing without loss of fluid, one that would bring to the surface a **complete** load each trip. The new Swab meets the long standing need for a swab with a large fluid passage. Economical swabbing could only come by the use of a rubber which had a positive seal against the swabbing string, but most swabs of this type did not have enough clearances for fluid bypass.

Eighteen years of experience in the manufacturing of oil field rubber products enabled Patterson-Ballagh to overcome earlier problems.

Fluid passage through the Swab is streamlined so that fluid resistance is reduced to a minimum. At the flowing stage of a well this is very important in preventing the Swab from blowing out of the hole.

Patterson-Ballagh has developed a rubber which will expand under very light loads. The rubbers are reinforced and have a proper cup support which keeps them in place under extremely heavy loads. They are made adjustable both to fit the irregular I.D.'s of tubing and in order to compensate for wear. This feature prolongs the life of the rubbers, gives maximum service and reduces cost of rubber replacement.

The Patterson-Ballagh Deep Well Swab has the added feature of easy adjustment of the rubbers. To prolong rubber use and life, a gauge was developed which enables the crew to measure the wear on rubbers and adjust them **to size on the string** without breaking the Swab from the sinker bar. Its continuous use is urged as a means of increasing swabbing efficiency and reducing swabbing costs.

Martin-Decker Improves Pressure Booster

The Martin-Decker 25,000 lb. Pressure Booster employs a new packing arrangement in which the sealing is done by a war-born method.

Pressure Booster

Check Valve

This Booster was developed for testing tubing and casing threaded connections. It utilizes available water or air pressure. 225 lbs. of source pressure develops 25,000 lbs. discharge pressure. It requires no motors or pumps and is equipped with a 25,000 lb. W. P. Check Valve (illustrated).

This Booster is also available in various pressure ranges for operating on lower pressure sources.

Race Track Hill Project Flowing

Flowing at the rate of 240 barrels of 41 gravity oil and 160,000 cu. ft. of gas, Kern Oil Co., Ltd. has finished No. 34-16 in Sec. 34-29s-29e in the Race Track Hill area at a depth of 4677 ft. Casing is cemented on bottom, with water shut-off at 4475 ft. Casing is perforated at 4675-4670 ft. Saturated oil sand was reached at 4601 ft. Top Pyramid Hills gas sand is placed at 4572 ft.

Automatic Drill Pipe and Casing Slips

As drilling operations become progressively deeper in search for petroleum reserves, every effort is being made to eliminate the heavy labor and improve the efficiency of both machinery and crews. With this objective in view, the recently designed BJ Automatic Drill Pipe and Casing Slips were developed to perform conveniently and simply the major portion of the floor work. The slips also speed up the handling of long strings of pipe and contribute greatly to the increased safety of both men and equipment.

An unusually compact unit has been developed which is easy to install; it does not clutter up the derrick floor; it is quickly placed in, or taken out of service and is under full control of the driller at all times. The unit is designed to operate on all types of rigs; and pneumatic actuation is recommended because of its efficiency and simple installation. If it is desired, steam or hydraulic power can be used, although requiring additional expensive equipment. Pneumatic power can be furnished by a simple connection on power rigs at normal pressure, or by the selection of a suitable compressor to handle volumes of 16 cu. ft. and up, at 120 psi.

Construction

The main elements of this mechanism consist of five parts:

(1) the cylinder used to raise, lower, or hold the slips in position;
(2) an arm or main body extending from the cylinder head and supporting the slip ring;
(3) the slip ring which is free to revolve within the body and supports the triple segment slips;
(4) two master bushing ring plate segments which serve to guide the slips into the master bushing, and
(5) a dual position, four-way control valve, located at the driller's post.

The two cylinders, on a heave base plate, are mounted on the rotary table support beams directly in front of the drum and adjacent to the rotary table. The cylinder nearest the rotary table is the double acting pressure cylinder, while the other serves only as a guide or stabilizer for the mechanism. The use of a double acting system provides power to pull the slips into positive set position even when the pipe or casing is not centered in the opening. The cylinders extend above the derrick floor and are provided with a limit stop to compensate for variations in distances between the rotary table support beams, the derrick floor and the top of the rotary table.

A heavy plate tops the two cylinders and forms the base for the swivel plate and swivel. The swivel itself is extremely simple in construction and is heavy enough to withstand any ordinary abuse, and shear bolts are provided to prevent permanent damage in the event the elevators run into the unit. It is so designed that the main arm or body of the mechanism can be rotated to any desired position. Also attached to the base plate is the latch which is automatically locked when the mehanism is lowered into operating position and which must be manually released for swiveling.

The body or carrying arm is firmly mounted on the swivel by a heavy hinge pin and is held in horizontal position over the rotary table by a pin fitting into the grooved latch. The body and slip ring are both hinged and are designed for easy placement and removal on or off the pipe. All removable pins are mounted with string chain.

Three slip segments are attached to the inner, or slip ring, by connecting links which allow for flexibility and permit easy removal of the slips. The complete slip ring is mounted on four anti-friction roller bearings attached to the body member, permitting full and free rotation of the ring and slips within the body. Slips are of the insert type, with inserts retained in bushings which are securely mounted to the slip body. Through the use of the proper bushing and inserts, sizes of from 2⅜" to 7" may be handled by one set of slips, eliminating the necessity of extra slip bodies. Means are provided for retaining the slip ring in the body when the door is opened for removing from or putting on pipe.

To provide a circular hole within the master bushing square, two half section master bushing rings are provided. These rings have a 30° bevel at the top, and serve to guide the slips and prevent them from "jumping out" when in raised position. The master bushing rings do not extend into the table opening to reduce its maximum diameter.

The control mechanism can be placed where desired, but field tests indicate foot control to be simplest and is, therefore, recommended. A four-way foot valve of popular make has been selected as most satisfactory and is so constructed that the slips are held in any desired position until released by the operator.

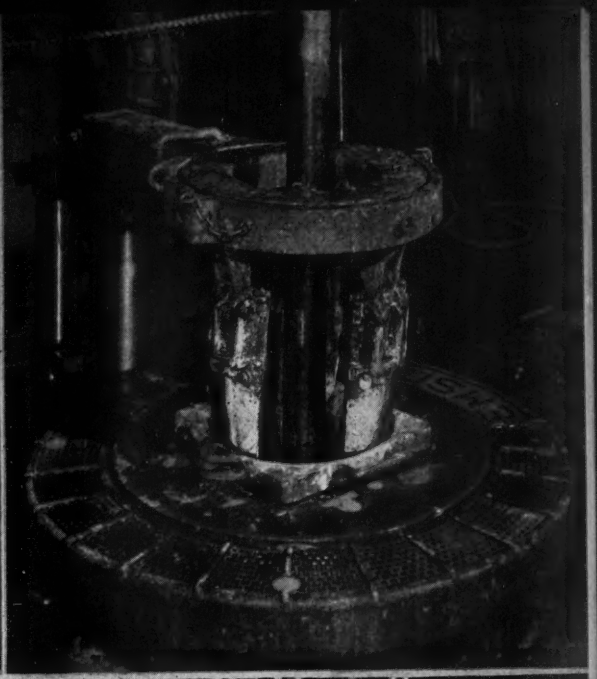
Operation

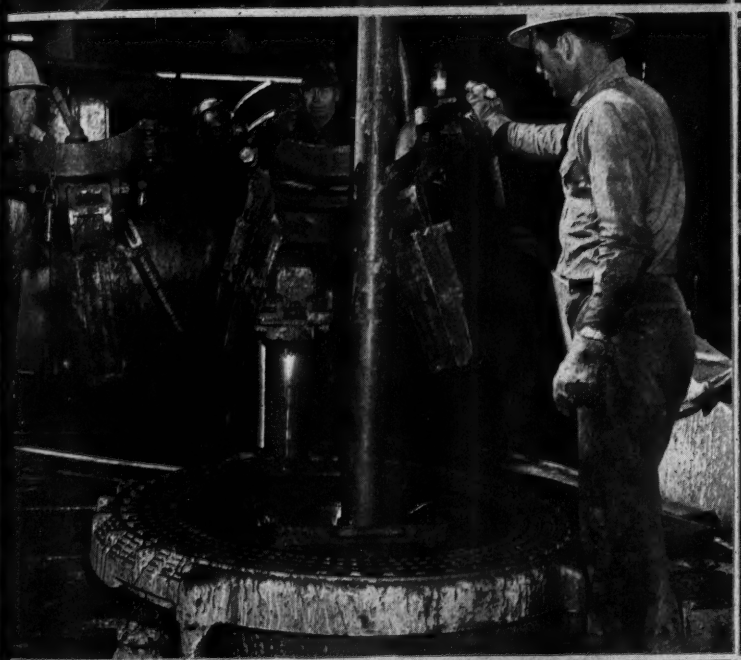
When coming out of the hole, pipe is simply picked up, high enough to clear the kelly sub. The master bushing rings are inserted and the unit positioned over the table in the following manner: power is admitted to the cylinder and the slip mechanism is picked up from out-of-service position to clear the rotary table. The cat line is then hooked onto the eye bolts provided on either side of the arm, and the body opened at one of the two hinging points, after making sure that the slip ring and the carrying arm segments are locked together. The

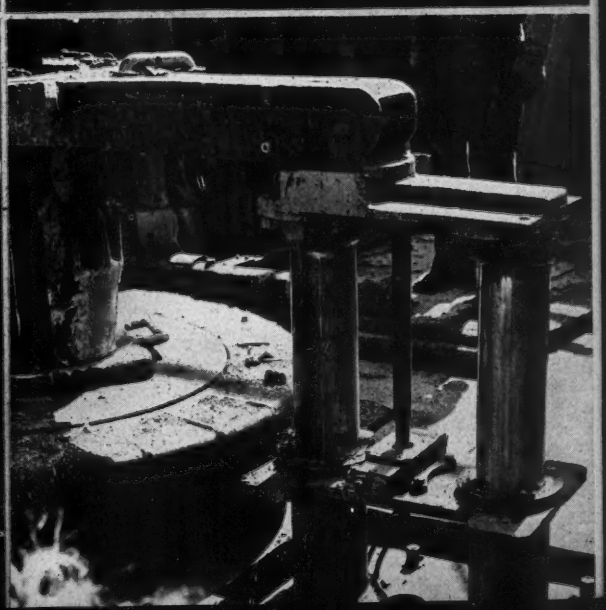
→

ON THE OPPOSITE PAGE

The sequence of operation of the power slips is shown by the photographs on the opposite page. Left column, top to bottom:—Fig. 1—The slips in the unused position, out of the way, on the derrick floor; Fig. 2—Moving the slips into position to wrap around the pipe; Fig. 3—Locking the slip ring with the body closed and the chained hinge-pin inserted. Right column, top to bottom: —Fig. 4—Slips in raised position, ready to be set; Fig. 5—The slips set; Fig. 6—A safety device can here be seen between the two cylinders. This safety stop prevents the slips from dropping in the event of a failure of power. If the power goes off, a spring forces the vertical member off center so that as it drops, the shoulder which can be seen in the picture strikes against the block and prevents further downward movement.







latch is opened and the body is raised (Fig. 2) and swung into proper position and lowered around pipe (Fig. 3). Maximum opening provides ample clearance around the pipe. The body is closed and the chained hinge pins are reinserted, placing the slips in a working position. (Fig. 4). Slips are then set (Fig. 5) by means of the control valve at the driller's post. Weight of the pipe is then assumed by the automatic slips and the joints can be broken. When the next stand of pipe is ready to be pulled, the pressure is admitted to the clyinder by the control valve and the slips rise to standing position as the pipe is pulled.

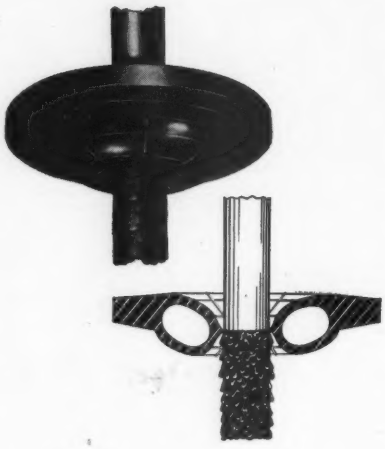
When going in the hole the slips are brought to standing position (Fig. 4). Bit and drill collars are lowered directly through the 16" opening in the slip ring until the elevator approaches the slip mechanism, at which time the control is actuated by the driller, and the slips are set (Fig. 5).

The automatic slips are so designed that any normal size drill pipe, tool joint, or pipe protector can be easily accommodated through the slip ring and the full opening of both slip ring and slips provides for safe handling of casing up to 7" O.D. without slowing down regular practice. Even if the drill pipe is dragging on the edge of the master bushing, full opening of the slips when in raised position, permits the free passage of any tool joints or protectors without danger of hanging up on the slips.

Additional information on the construction and operation of the automatic drill pipe and casing slips may be obtained from the Oil Tool Division, Byron Jackson Co., Los Angeles, California.

Bettis Introduce New Pipe Wiper

The new all-rubber pneumatic pipe wiper manufactured by Bettis Rubber Company of Los Angeles, embodies a number of new, exclusive features in design and construction. As shown in the accompanying cross section illustration of the wiper, the center portion that fits around the drill pipe is a thick-walled, low-pressure air cell with



a self-sealing valve. When wear occurs in the pipe aperture, air is added to compensate. This air-cushioned feature, it is explained, enables the Bettis wiper to absorb shocks like a low-pressure tire and, consequently, gives many additional miles of clean wiping service.

The Bettis Pneumatic Wiper is made entirely of special oil-resistant rubber compound. There is not a particle of metal used in its construction. It fits the drill pipe snugly, but expands readily when passing tool joints or protectors. The manufacturers assert that the Bettis wiper not only does a thorough wiping job, but also that its all-rubber construction entirely eliminated the danger of fire from sparks, caused by metal-to-metal contact and friction.

Bettis wipers are available in a range of sizes for both drill pipe and tubing. They are easy to install or remove and require no adjustment.

Mountain View Job Scheduled

Cleveland Oil Co. has staked location for the first of four drilling jobs scheduled for its 40-acre Ten Eyck lease in Sec. 29-30s-29e in the Mountain View area. Site for Ten Eyck No. 1 directly offsets J. Paul Getty's Derby No. 1, which established an excellent potential. Testing is being continued in L. S. Gilmour & Associates' Faure No. 33 in Sec. 13-30s-28e, a northerly field extension try. Hole is bottomed at 4711 ft., with top oil sand at 4561 ft.

New A.I.M.E. Group to Meet

The newly organized Pacific Petroleum Chapter of the A. I. M. E. has announced that it will hold its first meeting at the University Club, Los Angeles, on the evening of June 19. Talks on "Geology and Development of Cymric Oil Field, Kern County, California" by J. H. McMasters, and "Military Pipelines—European Theatre" by A. F. Woodward, will provide the technical program to follow brief announcements of committees and future plans.

It is further reported that the A. I. M. E. Junior Group has cancelled its June meeting and will attend the Chapter meeting, bringing as a contribution to the program Mr. A. F. Woodward's talk on pipelines.

The new Pacific Petroleum Chapter will carry on locally the A. I. M. E. petroleum programs, including the two-day technical meeting planned for October 24th and 25th at the Ambassador Hotel. The chairman announces that the technical program for the October meeting is already partly arranged by the Program Committee consisting of A. W. Gentry, Long Beach Oil Development Company; W. S. Eggleston, Union Oil Company; Norris Johnston of the General Petroleum Corporation, and W. Tempelaar-Lietz of the Shell Oil Company, inc. Carlton Beal is chairman for local programs for the remainder of the year.

It is understood that reservations are necessary for the dinner at the June 19th meeting, but that those unable to attend dinner are urged to go to the meeting which should start at about 7:30.

Alpaugh Prospects Hold Much Interest

Kings County Oil Co.'s E. C. Von Glahan No. 1, Sec. 4-23s-22e in the Alpaugh area of Kings County is attracting considerable attention from the oil fraternity. Designed as a Vedder equivalent test to around 12,000 ft., present depth is 11,860 ft., in what is believed to be Whepley shale. Miocene was topped at 8276 ft., San Joaquin Clay at 4851 ft. and Lower Fruitvale at 8785 ft. Severns Drilling Co. is in charge of operations.

Field Development

PREPARED BY CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

El Segundo Try Recovers Fish

Shell Oil Co., Inc., Operator, Six Companies Fee No. 1 in Sec. 2-3s-15w in the El Segundo area is conditioning hole as a sequel to recovering fish. Total depth is 4562 ft. in shale, with 11¾-in. casing cemented at 1085 ft. Standard Oil Co. has completed Gough No. 17 in the El Segundo gas area at 4189 ft. for a settled production of 1,000,000 cubic ft. a day.

Aliso Canyon Well Redirects

Tide Water Associated Oil Co. has plugged Porter No. 31 in the Aliso Canyon field back from 6555 ft. to 3500 ft. to redirect the hole. No. 36 and No. 37 are grading. Standard-Sesnon No. 1-8 is drilling below 2100 ft.

Montebello Try Drilling Shale

North of the Montebello field, Lodico Oil Co. is drilling its North Montebello No. 1 in Sec. 35-1s-12w at 3250 ft. in shale. The Texas Co. has reached a depth of 9700 ft. in Ciocca No. 1.

Spadra Wildcat Now Abandoned

After standing idle since March, 1945, E. H. Jones' No. 1 wildcat in Sec. 17-2s-9w in the Spadra area of Los Angeles County has been officially abandoned. Total depth is 825 ft.

Santa Ana Try Rigging to Deepen

Mid-Cal Petroleum Co. is rigging derrick to deepen Mid. Pet. No. K-1 in Sec. 24-3s-9w in the Santa Ana Canyon area, Orange County. Present bottom is 3280 ft.

La Habra Test Spot Coring

Standard Oil Co., Stern Community No. 2-1 in Sec. 7-3s-10w in the La Habra area is spot coring at 10,250 ft., without official intimation as to what may have been uncovered in recent operations.

Long Beach Well Perfs

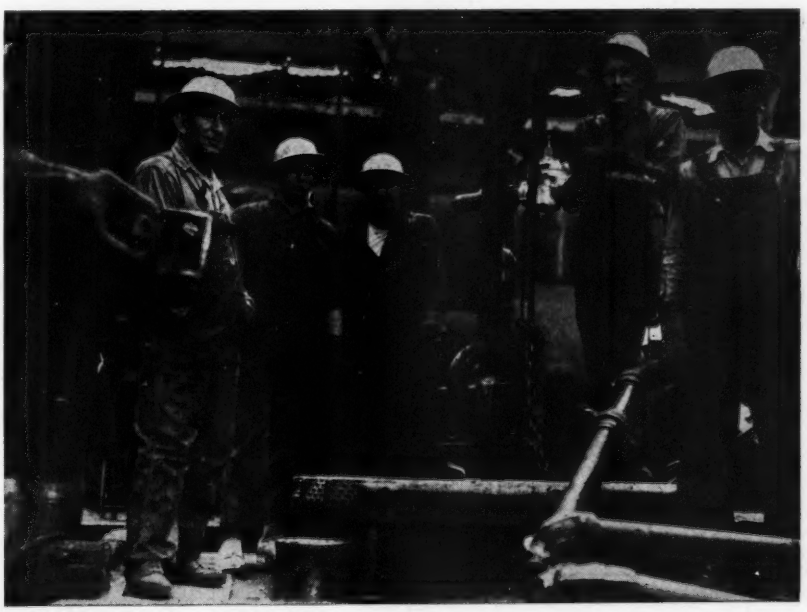
Shell Oil Co., Inc., Stakemiller-Rose No. 1 at Long Beach is preparing to gun-perforate, after split in casing around 5287 to 5295 ft. was recemented. Total depth is 12,381 ft.

Del Valle Try Pumps

Universal Consolidated Oil Co. has completed T. E. Adams-Aguirre No. 2 in Sec. 13-4n-18w in the Holser Canyon sector of the Del Valle area, pumping 105 barrels of clean 24 gravity oil a day from a total depth of 4404 ft. The new producer is west and south of No. 1 well, which currently yields 65 barrels daily. The Texas Co. is redrilling Kern No. 13-SW-18 at 1300 ft., after setting whipstock at 1183 ft. Location is in Sec. 18.

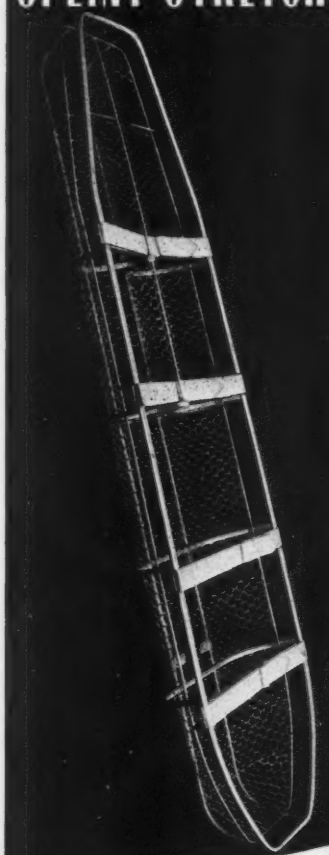
West Gardena Test Drilling

British-American Oil Producing-Texas Co.'s Bodger No. 1 in Sec.



At ease before the after lunch whistle, on Shell's Pansini No. 1, East Los Angeles Area, are R. J. Wilkerson, Driller; G. E. Ingraham, L. C. Coffey, H. L. Shannon, B. C. Bibby.

Stokes
SPLINT STRETCHER



The famous basket-type stretcher that acts as a splint for the entire body. Patient may be lifted or lowered from restricted places, or carried in any position. Strongly made of heavy iron wire netting, reinforced with iron braces.

WRITE FOR CIRCULAR

B. F. McDONALD CO.

Manufacturers & Distributors of Industrial Safety Equipment

Safety FROM HEAD TO FOOT

5100-P SOUTH HOOVER STREET
LOS ANGELES 37, CALIFORNIA
Other Offices in San Francisco and Houston

Playa Del Rey Oil Prices Rise

Producers' ceiling prices for the Playa Del Rey oil pool have been increased 14 cents a barrel, effective May, the Office of Price Administration announced. This action is in line with the stripper well premium payment plan, which originally went into effect August 1, 1944, with new pools added to the list each month as they qualify.

Dunlap Adds Beach Producer

D. D. and Dorothy Dunlap have completed Aldrich No. 3 in Sec. 18-6s-10w in the Huntington Beach area at a depth of 3073 ft. for a yield of 480 barrels of 23 gravity oil a day through a 28/64-in. orifice.

Union Plans Pico Explorer

Union Oil Co. has location staked for Culp No. 1 in Sec. 7-2s-11w near the town of Pico in Los Angeles County. The site falls near the intersection of Beverly and San Gabriel Blvds.

Newport Beach Try Rigs Anew

Signal Petroleum Co. of Calif. has moved heavy equipment to location for installation on Callens No. 1 in Sec. 18-6s-10w in the Newport Beach area and plans to carry the well on down from present depth of 3194 ft. for a check of the B and C zones. McCain No. 1 in Sec. 17 is rigging larger pump, after yielding 70 barrels of oil a day. Total depth is 2122 ft.

Antelope Valley Wildcat Planned

Amapola Oil Corp. of Bakersfield is considering the drilling of a wildcat well in Sec. 6-6n-1w, about four miles south and two miles west of Lancaster in Antelope Valley. The lease of 600 acres is not a great distance from location of Del Sur Oil Co.'s recently abandoned try, which found showings, but of subcommercial worth. Willette Oil Co. may deepen Virginia Lee No. 1 in the general area to around 7000 ft.

General Drilling Co.

CONTRACTORS
SUPERVISION

"Remember, it's the last cost that counts, not the first."

Suite 1215
453 So. Spring St.
Los Angeles, Calif.

Telephone: Michigan 6316

RENTALS

By The Manufacturer

VERNON-CORWIN
DESANDERS

VERNON-McNEELY
VIBRATING MUD SCREENS

VERNON TOOL CO., LTD.

1101 Meridian Ave., Alhambra
Telephones CU 31206
Long Beach 42403

Wilson Bros.

PAINT ENGINEERS
CONTRACTORS

WHITTIER 43-275

FOR SALE

6500 ft. 5 9/16 Machine scarfed drill pipe. 3600 ft. 5 9/16 Drill pipe (uncut). Herley-Kelley, 3201 Pasadena Ave., Long Beach 7, Calif. Phone 425-23. tf

Buy Bonds

22-3s-14w has been spudded in and has cemented conductor pipe at 40 ft. The try is one mile and one-quarter northwest of Ohio Oil Co.'s wildcat in Sec. 23, preparing for production test. Severns Drilling Co. is in charge of drilling the Bodger project.

Orange County Wildcat Fails

In the Fairview area near Huntington Beach, Tide Water Associated Oil Co. has given up its Norris No. 1 test in Sec. 8-6s-10w, after carrying the hole to 3560 ft. and finding only gray sands.

Athens Project Takes Oil Sand

G. M. Russell last was reported drilling ahead in oil sand at a depth of 8160 ft. in well No. 3-21 in the Athens area, Los Angeles County. Enough sand evidently has been taken to date to assure production of some degree.

Termo Finishes Wilmington Well

The prolific "237" zone in the Wilmington field has rewarded the Termo Co. with a new producer, flowed initially 2900 barrels of 30.6 gravity oil a day through a 36/64-in. choke. Known as L. B. H. D. No. D-1, the well took in 40 ft. of schist before completion at a total depth of 6174 ft. Bankline Oil Co., U. P. No. 3 has been cored to 5751 ft. in oil sand and cemented 7-in. casing at 5751 ft. An electric log placed the top of the "237" zone at 5731 ft. Additional hole will be made before completing. Meanwhile, U. P. No. 7 is coring at 5500 ft .

East Los Angeles Work Continuing

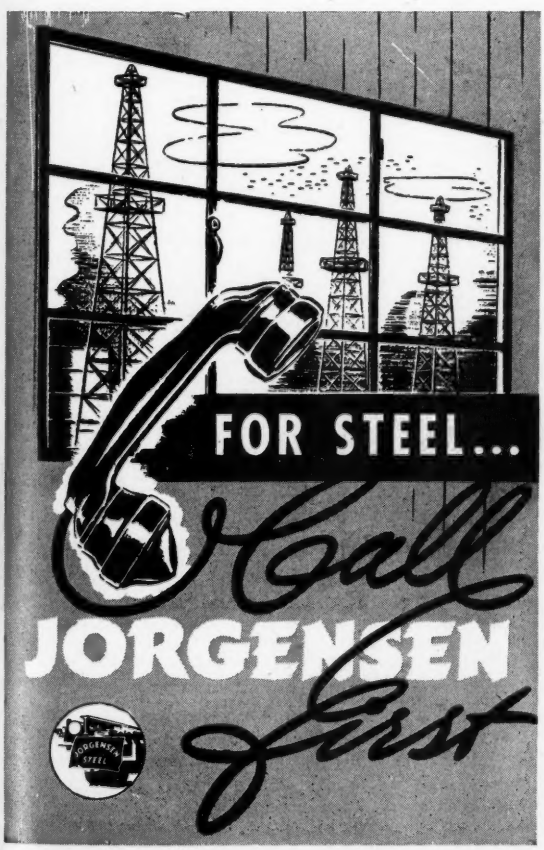
Richfield Oil Corp., Edison No. 1 in Sec. 16-2s-12w in the East Los Angeles area is coring at 7955 ft. Keller No. 1 in Sec. 9, likewise is coring at 7963 ft. Vail No. 2 in Sec. 16 is preparing to core ahead, after a formation test at 7941-7969 ft. was wet. C. G. Willis, Simons No. 1 in Sec. 15 is drilling below 6150 ft. Shell Oil Co., Pansini No. 1 in Sec. 23 is idle, after swabbing water from perforated intervals 6870 to 7070 ft. Total depth is 9310 ft.

Costa Mesa Job Moving Ahead

Don Smith & Associates is moving ahead with Capron No. 1, which will be drilled in Sec. 16-6s-10w in the Costa Mesa area, Orange County. Silver Divide Mines Co.'s Sierra No. 2 in Sec. 23-6s-10w last was reported pumping an estimated 10 barrels of oil a day from 3904 ft.

Huntington Beach Try In Oil Sand

Hiawatha Exploration Co., developer in recent weeks of surprising production through the medium of Atha No. 2 in the Huntington Beach area, has reached a depth of 3180 ft. in oil sand in Atha No. 3 in Sec. 13-6s-11w. John Schumacher and Lon McCoy are understood to have leased a portion of their holdings in the 40-acre lease to the D. D. Dunlap organization. A. W. Lyddon, Operator, is fishing drill pipe in Anaheim Sugar No. 7-1 in Sec. 7, which is bottomed at 5695 ft.



Baroid Products

TODAY MAY STOP DRILLING TROUBLES TOMORROW

- ANHYDROX
- AQUAGEL
- AQUAGEL CEMENT
- BAROCO
- BAROID
- FIBERTEX
- IMPERMEX
- MICATEX
- SMENTOX
- STABILITE
- ZEOGEL
- TESTING EQUIPMENT
- BAROID WELL LOGGING SERVICE

BAROID SALES DIVISION
NATIONAL LEAD COMPANY
BAROID SALES OFFICES: LOS ANGELES 12, TULSA 3, HOUSTON 2

Coastal and Northern District

Union Prepares Santa Barbara Try

Union Oil Co. is rigging Escolle No. A-1, wildcat test in Sec. 29-9n-34w in the Casmalia area of Santa Barbara County. The company has foundation in for Sisquoc No. 6 in Sec. 25-9n-32w in the Sisquoc area. In the Santa Maria field, Union is drilling six wells, a check disclosed.

Rio Vista Well Drilling Ahead

Amerada Petroleum Corp. is drilling its E. Mayhood No. 2 in Sec. 36-4n-2e in the Rio Vista gas field below 3550 ft. Standard has location staked for Jordan Unit No. 3 in Sec. 29-3n-3e.

Solano County Gas Try Prepares

Foundation has been poured for Honolulu Oil Corp. and Barnsdall Oil Co.'s joint gas test, Liberty Farms No. 3, in Sec. 17-5n-3e, Solano County. Site is approximately six miles north of the northern tip of the Rio Vista field.

Cat Canyon Area Active

Considerable development activity is in prospect for the Cat Canyon area of Santa Barbara County. Standard Oil Co. is completing Los Flores No. 6 in Sec. 27-9n-33w at 6253 ft. No. 7 is a rig. Union Oil Co. has foundations in for Bell No. 24 and No. 42 and is drilling No. 44 at 5478 ft. Company's Williams Holding No. A-1 in Sec. 25 has plugged back from 3370 ft. to 3043 ft. and is cleaning out.

Build Rig For Eureka Wildcat

Rig is under construction for the Texas Co..'s Holmes-Eureka No. 1 wildcat in Sec. 22-3n-1w in the Eureka area of Humboldt County, which is designed to primarily look for oil. Failure to find in the deep zones, probably will bring about completion attempts in known gas zones, now being tapped by Texas Co. wells in the area drilled years ago.

San Ardo Test Sidetracking

With the hole bottomed at 2425 ft. in shale, C. C. M. O. Co. is concentrating on efforts to sidetrack fish in No. 6-G1 wildcat in Sec. 6-23s10e in the San Ardo area, Monterey County.

Conejo Wildcat Drilling Sand

On the spacious Janss ranch in the Conejo area, Sandburg Petroleum Co. of Utah is drilling No. 1 test in Sec. 33-2n-19w, Ventura County, at 5588 ft. in sand. The ranch is the home of many of the country's most famous thoroughbreds.

Chico Gas Try Drilling Basalt

Standard Oil Co. is drilling Donohue Fee No. 1 in Sec. 6-20n-1e in the Chico area, Butte County, at 1717 ft. in basalt. Kirby Community No. 3 in Sec. 24-4n-1w in the Kirby Hills area, Solano County, is coring hard shale at 2451 ft. Scally Estate No. 1 in Sec. 10-4n-1w in the Potrero Hills is drilling in shale below 1000 ft.

Rincon Well Working Over

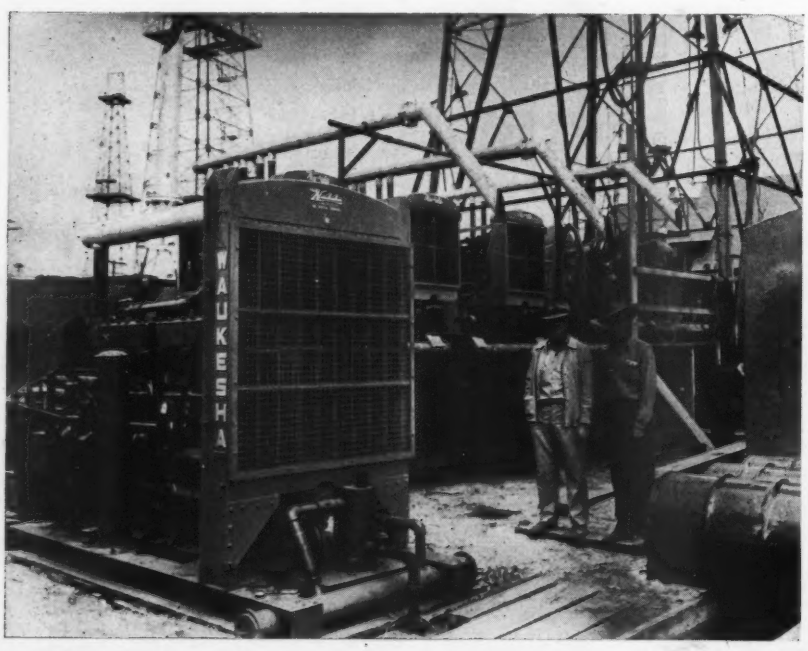
C. C. M. O. Co. is preparing to clean out Hobson No. C-11 in Sec. 17-3n-24w in the Rincon area, after tubing plugged while the well was being swabbed. Depth is 14,155 ft., with plug at 13,575 ft.

Red Mountain Well Gets Deep

Continental Oil Co. is drilling at 8600 ft. in shale in its No. 2 test on the Rancho Casitas in Section 7-3n-23w in the Red Mountain area of Ventura County. As far as known, nothing of interest has turned up to date.

South Mountain Test Rigs Derrick

D. D. Feldman, widely known Texas, Louisiana and South American operator, is rigging derrick for N. Richardson No. 1 in Sec. 14-3n-21w in the South Mountain area. The play is predicated on geology worked out by David C. Martin.



F. M. Kellogg (right) and J. J. Hayes, tool pusher "talk it over" on location as K. L. Kellogg & Sons prepare to drill Harbor Community No. 49 for General Petroleum. The Kellogg Company has two other wells now drilling nearby, Harbor F-8 and Harbor E-6 for Hancock Oil Co.

Havenstrite Drills At Piru

R. E. Havenstrite, Operator, continues to drill steadily ahead at a depth of 3400 ft. in Lisk No. 1 wildcat test in Sec. 15-5n-18w in the Piru area. Nothing of interest has been reported to present depth.

Los Alamos Test Drills Hard Shale

Drilling in hard shale at 3900 ft. was the last report from Whittier Associates, Barham No. 3 inSec. 11-7n-32w in the Los Alamos area.

Martinez Project Tests Successfully

Ardley Petroleum Co. is cleaning out Almond No. 1 test in Sec. 31-2n-2w in the Martinez area of Contra Costa, after the well flowed gas on test at the rate of 1,500,000 cubic feet daily. Total depth is 2210 ft., with pipe cemented at 1700.

Solano Venture Rigging Derrick

Amerada Petroleum Corp. is rigging derrick to start the drill in Millar Community No. 3 in Sec. 12-6n-2e in the Dixon area of Solano County, where past efforts of the company have been rewarded with more than ordinary success.

Tehama County Job Finishing

Superior Oil Co. is preparing to give the finishing touches to Russell No. 1 in Sec. 12-24n-3w in the Corning area of Tehama County, after a test of the interval of 1540-1570 ft. flowed gas at the rate of 4,000,000 cubic feet daily. The interval of 1520 to 1570 ft. was reperforated following the try. The well, bottomed at 1717 ft. is located about one-holf mile south of the company's Saulde-berere No. 1 producer.

Shell Rigs Capitan Well

Having completed successfully its Covarrubias No. 1-39 in Sec. 32-5n-30w in the Capitan field of Santa Barbara County for 193 barrels of oil and 80,000 cubic ft. of gas daily from 3672 ft., Shell Oil Co. is rigging up No. 1-48 in the section.

West Mountain Tests Sets Pipe

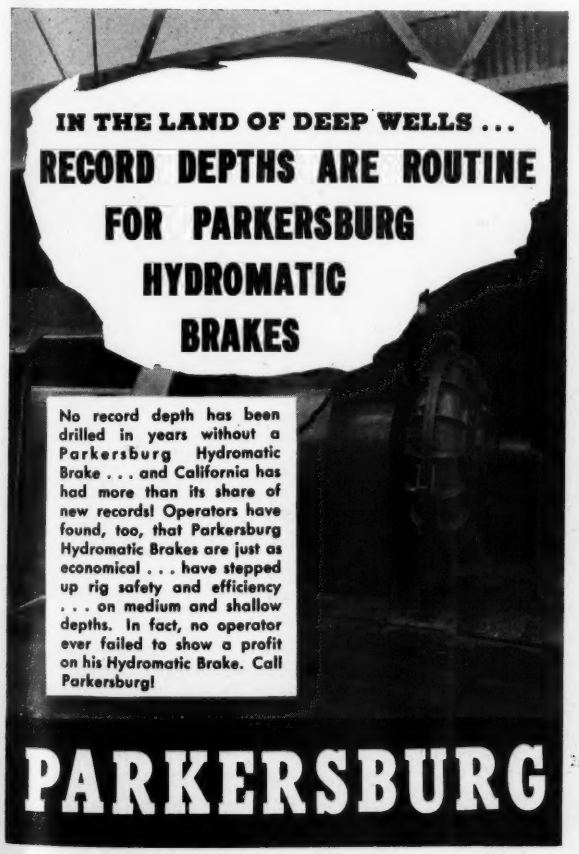
Casing has been cemented on bottom at 5047 ft. in F. E. Fairfield's West Mountain No. 1 wildcat in Sec. 23-3n-21w in the West Mountain area, Ventura County. Located one-half mile northeast of Los Nietos Co.'s L. B. H. discovery well, indications are the current try has uncovered much of interest. This is a "no-dope" hole.

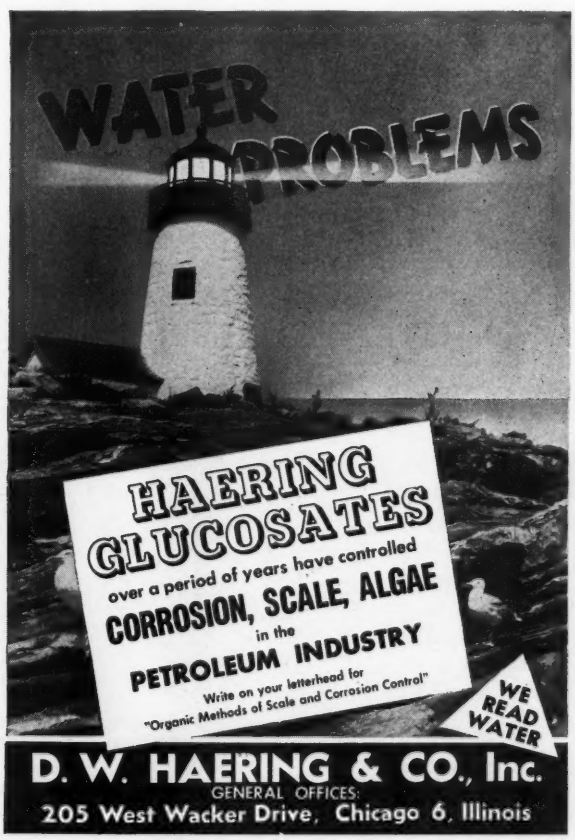
Merced County Prospect Fades

In the Newman area of Merced County, Don Pedro Oil Co. has called it quits at a depth of 4400 ft. in its wildcat in Sec. 9-6s-9e. A number of tests made on the way out all showed water.

Riverdale Project Drilling On Down

Pacific Western Oil Corp. and George F. Getty, Inc., U. C. L. No. 5 in Sec. 9-17s-19e in the Riverdale area is drilling steadily ahead at 8000 ft. in brown shale.


IN THE LAND OF DEEP WELLS ...
RECORD DEPTHS ARE ROUTINE FOR PARKERSBURG HYDROMATIC BRAKES
No record depth has been drilled in years without a Parkersburg Hydromatic Brake . . . and California has had more than its share of new records! Operators have found, too, that Parkersburg Hydromatic Brakes are just as economical . . . have stepped up rig safety and efficiency . . . on medium and shallow depths. In fact, no operator ever failed to show a profit on his Hydromatic Brake. Call Parkersburg!
PARKERSBURG


WATER PROBLEMS
HAERING GLUCOSATES
over a period of years have controlled
CORROSION, SCALE, ALGAE
in the
PETROLEUM INDUSTRY
Write on your letterhead for "Organic Methods of Scale and Corrosion Control"
WE READ WATER
D. W. HAERING & CO., Inc.
GENERAL OFFICES:
205 West Wacker Drive, Chicago 6, Illinois

San Joaquin Valley

Coles Levee Well Comes In

Richfield Oil Corp. has brought in its C. L. A. No. 45-34 in Sec. 34-30s-25e in the Coles Levee field, flowing 1750 barrels of 32.6 gravity oil daily from a total depth of 9650 ft.

Jacalitos Job Plugged Back

Wilshire Oil Co. is preparing to plug back its No. 23E-27 in Sec. 23-21s-15e in the Jacalitos area of Fresno County from 4440 ft. to 3919 ft., as a prelude to drilling horizontally with Zublin bit. Bottom is in gray sand.

Dominion Test Oil Failure

Having drilled 173 ft. into the schist zone to 1183 ft., showing no oil or gas, Gene Reid Drilling Co. has abandoned No. 1 wildcat on Kern County Land Co. ground in Sec. 15-26s-28e in the Dominion area, Kern County.

Round Mountain Try Quits Search

Miller and York, K. C. L. No. 3 in wildcat ground near the Round Mountain field on Sec. 13-28s-28e has been abandoned at a depth of 2400 ft. in gray Vedder. Top of the Vedder was placed at 2384 ft.

New Edison Schist Well

Jergins Oil Co. has added another excellent producer from the schist zone in the Edison field. The new well, Hershey No. 15, in Sec. 14-30s-29e flowed initially 1040 barrels of 23 gravity oil a day from a total depth of 2251 ft. Oil yield, coupled with the shallow depths of schist wells in this area, constitute nothing much less than a bonanza. Jergins has half a dozen other drilling jobs at various stages of operations in the field.

Superior Adds Cymric Producer

Superior Oil Co. has completed Woody No. 78-22 in Sec. 22-29-21 in the Oceanic oil sand zone, flowing at the rate of 150 barrels of 37.7 gravity oil a day, cutting very slightly through a 11/64-in. bean. The gun-perforated interval is 4517-4532 ft. The top of the Oceanic sand was placed at 4363 ft. and Kreyenhagen at 4531 ft. Operator plans additional gun-perforating. Standard Oil Co. has finished Weston No. 281-27W in Sec. 27 flowing 494 barrels of 28.5 gravity oil and 140,000 ft. of gas from the Carneros zone, immediately above plug at 3450 ft. H. H. Magee, Operator, Bolton No. 5 in Sec. 22 has quit the search for oil at 1444 ft., after the Amicola zone proved gray and barren.

Kern River Job Testing

P. H. Frank and Elmer C. Von Glahn are preparing to inaugurate production test of two lower zones between 1135 and 1188 ft. in their Elmer C. No. 1 in Sec. 8-29s-29e along the south edge of the Kern River field. Rods and tubing have been run and the well will be put on the pump. Total depth is 1428 ft., with plug at 1388 ft.

Edison Explorer Finds Sand Gray

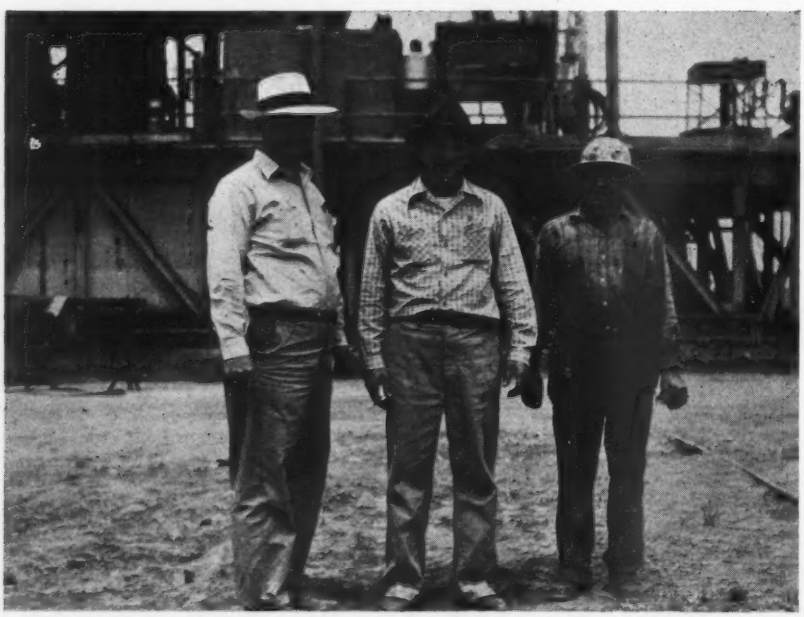
With bottom of the hole in gray sand and cobblestones at a depth of 3990 ft., Hancock Oil Co's Jobe Community No. 1 wildcat test in Sec. 7-30s-29e in the Edison area has been wrtten off as a duster.

Cymric Well Cements Pipe

Universal Consolidated Oil Co.'s Sauerdough No. 7 in Sec. 23-29s-21e in the Cymric field is standing with 8 5/8-in. casing cemented at 5138 ft. A test of the interval of 5307-5350 ft. is scheduled. Following a formation test from 5307 to bottom at 5498 ft., which recovered mostly oily mud and salt water, the hole was plugged back to 5390 ft. Meantime, Argentina Consolidated Mining Co.'s Olympic No. 17 in Sec. 22-29s-21e continues to make hole ahead at 6476 ft. in gray sand. The Point of Rocks zone reached at 6115 ft., evidently showed no oil.

Comanche Point Well Oil Failure

Having drilled to a total depth of 1273 ft. in granite, L. S. Gilmour & Associates has abandoned Tejon No. 2 in Sec. 25-32s-29e in the Comanche Point area of Kern



(Left to right) Tod Gifford, Pusher, Vail No. 2; Buster Fuller, Pusher, Edison No. 1 and Shorty Stepanick of Rocky Mountain Drilling Co. at the Richfield activity in East Los Angeles Area.

County as a production failure. Granite was topped at 1260 ft.

Middle Dome Test Making New Hole

Troubles besetting Standard Oil Co.'s No. 73-30V try in the Middle Dome area of Kettleman Hills have finally been overcome, with new hole now being made below 10,900 ft. Located in Sec. 30-23s-19e, Kings County, the objective of the well is the Eocene around 12,000 ft.

Belridge Deep Test Drilling

Belridge Oil Co. is drilling its deep test, No. 62-W-33, in Sec. 33-28s-21e in the South Belridge area slightly beyond the 10,800-ft. mark. This try raised a flurry of excitement some weeks ago when a deep zone discovery was rumored in oil circles. The setting of pipe at 10,000 ft., prompted the excitement.

Temblor Area Lists New Try

Beverly Trading and Exploration Co., which has drilled and abandoned two exploratory holes in the Temblor area of Kern County, has made location for a third test, known as F. O. B. No. 1 and located 300 ft. south and a like distance west from the north quarter corner of Sec. 31-29s-21e. This latest venture is said to be enhanced by a more favorable location on structure than the earlier tries.

McDonald Anticline Lists Shallow Tests

A brace of shallow exploratory drilling jobs are planned for the McDonald anticline area of Kern County by Richfield Oil Corp. Location for Janss-USL No. 1 has been made in Sec. 11-28s-29e and for McGrath U. S. No. 1 in Sec. 13.

Wheeler Ridge Wildcat Looms

Tejon Oil Co., which recently gave up its second explorer in the Wheeler Ridge area, has under consideration the drilling of still another try in the area. The first well was drilled under the banner of Kern Line Oil Co. to 8390 ft. and on production test reacted wet. Subsequently, it was carried to 9393 ft. and abandoned. The second venture was abandoned at 10,830 ft. because of a series of mechanical mishaps. The site was in Sec. 19-11n-19w.

Dudley Ridge Try Redrills

Western Gulf Oil Co. is redrilling its Von Glahn No. 14-8 exploratory venture in Sec. 8-23s-21e in the Pelican Island district of Kings County slightly below 2500 ft. The hole originally went to a total depth of 4840 ft. with a test of the interval between 4750 and bottom inconclusive due to mechanical troubles. The well is located not far from Dudley Ridge and about 10 miles from the east flank of the Kettleman Hills North Dome field.

Devils Den Wildcat Cores

Approximately two miles east of the Devils Den field, Barnsdall Oil Co. is coring Bates No. 2 in Sec. 20-25s-19e near 1600 ft., without official intimation of what may have been uncovered of interest to date.

BUDA ENGINES

Natural Gas--Butane--Gasoline--Diesel

GASO POWER PUMPS

Parts and Service

•

PRODUCTION EQUIPMENT COMPANY

651 East Gage Avenue, Los Angeles 1, Calif.
3271 Cherry Avenue, Long Beach 7, California

Just Say---

YES! You may send me the CALIFORNIA OIL WORLD for one year, for which I enclose $1.00.

Name .....

Address .....

City ..... State .....

Position ..... Company .....

Check branch engaged in Producing..... Refining..... Natural Gasoline..... Marketing..... Manufacturing....

Subscriptions accepted only from persons actively connected with the oil industry.

California Oil World, 117 West 9th St., Los Angeles 15, Calif.

Electric Pumping

IS EFFICIENT, LOW COST PUMPING

Central station electric power operates pumping equipment efficiently and economically. The first cost of an electric motor is low and maintenance costs are reduced to a minimum. • Electric motors are easily adapted to automatic operation. They operate pumping equipment smoothly, with little wear. Compact, they can easily be moved from one job to another. • Let an Edison oil field engineer give you *all* the facts. No charge or obligation.

SOUTHERN CALIFORNIA Edison

THIS LAUGH

OFF!!

Double or Nothing

The cats! Mrs. Gibbons' eyes blazed beneath her widow's veil.

The gossipy old cats! They might at least have the decency to wait until the funeral is over.

Blaming **her.** Sure, they were. Not openly. Oh, no—but you could put quotation marks around those icy glances.

"It was her fault!"

"She drove him to it!"

"Poor John, married less than two years—and suicide was the only way out."

What were those words the Reverend Davis was mumbling: "In life, we knew him as a kindly, generous man—a man of high principles and stalwart character."

Rubbish! He was a jerk! A mean, tight-fisted jerk. And everybody knew it. The hypocrites.

The preacher droned drearily on—"problems of the world weighed heavily upon him—until alas, he sought escape from the trials and tribulations of this mortal existence . . . "

Mrs. Gibbons' thoughts drifted away from the stuffy funeral parlor to a montage of pleasant anticipation—a cabana at Palm Beach—a box at Santa Anita—a flowered balcony at Cuernavaco.

Of course, there'd be those details of the insurance. She'd tend to that tomorrow . . .

Forty thousand dollars! How good those words sounded! She whispered them softly to herself—over and over—**forty thousand dollars!"**

Let's see. She'd phone the agent first thing in the morning and tell him about her husband's suicide.

Suicide? **Say, wait a minute!** Don't those policies say something about **suicide?** Something about "double" for accidental deaths? or was it . . . ?

Out of the dim recesses of Mrs. Gibbons' memory echoed the half-forgotten words of the agent: "the usual two-year suicide clause—the policies become null and void . . . "

Null and void! Oh, my God!

Anguished sobs came from behind the black veil.

And for the first time, the frozen-faced mourners looked sympathetically toward the widow Gibbons.

—Reprinted from Ethyl News.

Nurse: "It's a boy."

King Solomon: "Curses! I wanted a girl."

Nurse: "Patience, King . . . there'll be three more this afternoon."

House-to-House Salesman. "You make only a small deposit and make no more payments for six months."

Lady of the House: "Who told you about us?"

Hello! Is this the City Bridge Department?"

Yes. What can we do for you?"

"How many points do you get for a little slam?"

He: "I want you to know I've got a yen for you."

She: "How much is that in American money?"

"Sadie, what is a gentleman?"

"A gentleman," answered Sadie, "is a man you don't know very well."

A meddling old woman accused one of the contractor's workmen of having reverted to drink because "with her own eyes," she had seen his wheelbarrow standing outside the tavern.

The accused man made no verbal defense, but that evening he placed his wheelbarrow outside her door and left it there all night.

"I want you to have a good time at the party, Marion, dear, but I want you to be a good girl." "Make up your mind, mother," said Marion.

"Was the baby sent down from heaven, Mama?"

"Yes, dear."

"They like to have it nice and quiet up there, don't they?"

CALIFORNIA AND JENSEN BOTH MEAN BUSINESS!

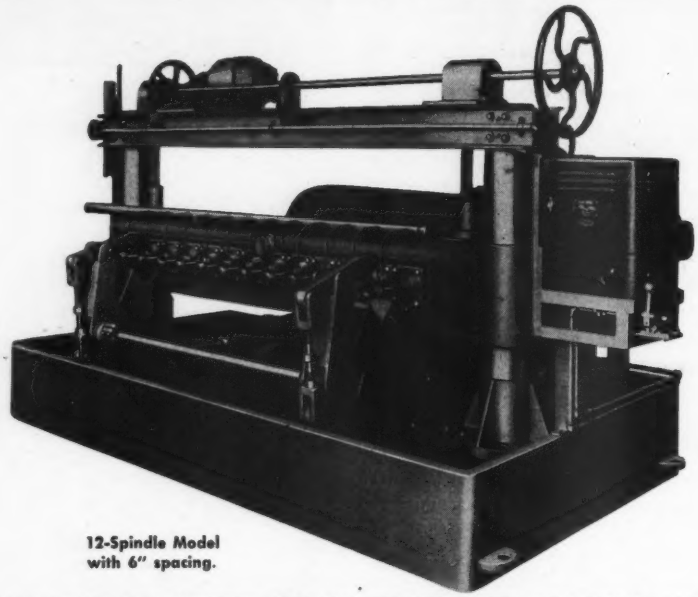
Good business, too; for California has the oil and JENSEN helps make it profitable by building rugged economical pumping units.

Here's your opportunity, California producers, to cash in on a good business combination. Write or wire us TODAY for complete information. We've got a size for every well.

Stocked by
THE OIL TOOL CORPORATION
3075 Cherry Avenue, Long Beach, Cal.
Phone 481-81

JENSEN BROTHERS MFG. CO.

14th and Pacific Streets
COFFEYVILLE, KANSAS, U. S. A.
EXPORT OFFICE, 50 Church St. New York City



12-Spindle Model
with 6" spacing.

ALLEN PIPE PERFORATOR HAS ALL ELECTRIC FEED AS LOW AS ¼" PER MINUTE

For Details Write or Phone

ALLEN MACHINE AND TOOL CO.

13409 South Alameda Street, Compton, California

NEvada 62707

STEEL TUBING

CARBON • ALLOY • STAINLESS

Seamless • Welded

The more unusual your requirements the better we can serve you!

San Francisco Office
1201 RUSS BLDG.
SAN FRANCISCO 4
GARFIELD 0955

KILSBY & HARMON INC.

COMPLETE TUBULAR SERVICE

3311 East Slauson Avenue • Phone JEfferson 9161

Los Angeles 11, California

Washington Highlights

(Continued from Page 1)

Since the end of the war the case has been revived and is now set on the court record for June 20, at which time the industry is supposed to answer the government's charges. However, Justice Department officials disclosed that the industry is asking for a 30-day delay, bringing the answering date to July 20, and that they have no objections to the continuance and expect that the court will grant it.

Meanwhile, the price situation hasn't changed. The OPA extension bill is coming up before the Senate next week — probably on Monday—and passage of the legislation in approximately the same form as the bill reported to the Senate by the Banking and Currency Committee would automatically mean the lifting of present price controls on petroleum and petroleum products.

However, the present OPA act does not expire until June 30, and efforts are still being made to lift controls on petroleum before that date. The OPA opposition to this move was explained in a telegram sent to D. Harold Byrd, President of the Independent Petroleum Association of Texas, by Paul A. Porter, OPA Administrator.

"Decontrol action on crude oil and petroleum products is presently complicated by coal situation," Porter wired. "Assume you agree that not all petroleum products are in full supply. Have studied industry advisory report carefully with great interest. Following staff conferences within OPA and other interested agencies am not convinced time is appropriate to institute such decontrol action."

Porter said that he was bound by three standards in instituting any decontrol action. First, he said, such a decision must be bound by the directive which states that there shall be no decontrol unless there will be no rise in prices resulting from such action. Second, that the commodity decontrolled is insignificant in the cost of living, and the third standard gives the OPA Administrator the discretion to recommend decontrol to the Director of the Office of Eco-

TIME TO CHECK YOUR **DEHYDRATION**

	Yes	No	Don't Know
Are you using the right grade?	☐	☐	☐
Are you using the right amount?	☐	☐	☐
Are you operating efficiently?	☐	☐	☐

If your dehydration doesn't meet your needs 100%, we'll gladly give you expert advice based on your individual requirements. No obligation. Just drop a card to

NOBS DEHYDRATING CORPORATION
2465 East 53rd St., Los Angeles 11, Calif.

nomic Stabilitzation "for any other reason."

"Clearly in the existing situation action to decontrol petroleum and its products could not meet any of these standards," Porter said. "Further wish to advise there is no foundation for assumption that action is being complicated by anyone from within or without OPA. Finally, I am as anxious as the industry itself for early decontrol when conditions warrant it and have instructed fuel division to keep me constantly informed as to developments which may support action in this respect."

In answer to Porter's telegram, Major B. A. Hardey, President of the Independent Petroleum Association of America, took sharp issue with the OPA Administrator's statement that petroleum and its products are not now in full supply.

"I know of no basis for the assumption concerning lack of fuel supply," he declared. "I will assert that the supply is adequate. The facts do not justify your assumption."

Hardey asserted that the capacity of the industry to produce crude petroleum has recently been demonstrated to be nearly 200,000 barrels per day more than the present rate of production. All requirements are now being met and in addition, both petroleum and its products are being added to a more than adequate storage supply.

"It is conceivable, of course," Hardey said, "that by searching the country over it would be possible to find a temporary shortage in a particular community of a petroleum product. There is currently a pinch in premium price motor fuel due to a shortage of lead. But there is plenty of motor gasoline. Aboveground stocks of this product are near the highest point in history."

modernized
WATER WITCH SERVICE
in oil wells
serving California fields

OILFIELDS SERVICE CO.

R. D. Elliott, Manager
529 Roosevelt Rd. Long Beach
Ph. Long Beach 42096

Elliott Joins Howard Heilman

Mr. Howard H. Heilman, Chemical Engineer, 412 West Sixth Street, Los Angeles, who recently opened consulting offices, providing consulting service on chemicals and allied subjects and projects, announces that Mr. J. H. Elliott has joined his staff. Mr. Elliott has had extensive experience in gas recovery, corrosion problems, boiler feedwater treatment and in the manufacture of various agricultural chemicals. Mr. Elliott's previous associations include the American Smelting & Refining Company, Firestone Tire & Rubber Company, Los Angeles Chemical Company and the Division of Chemistry of the California Department of Agriculture.

In addition to previously established activities, Mr. Heilman's offices will undertake project development wherein analytical and laboratory research and development work is required. In addition to raw material testing, product or intermediate material evaluation, process feasibility and yield can be obtained by production trial at laboratory and small pilot plant stages.

Just Say--

YES! You may send me the CALIFORNIA OIL WORLD for one year, for which I enclose $1.00.

Name .....

Address .....

City ..... State.....

Position ..... Company .....

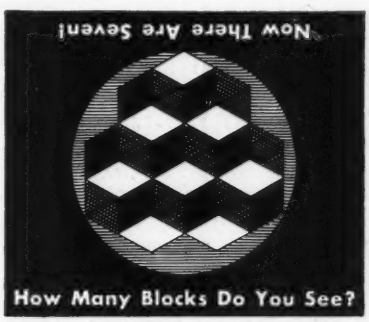
Check branch:
Engaged in Producing..... Refining.....

Natural Gasoline..... Marketing.....

Manufacturing.....

Subscriptions accepted only from persons actively connected with the oil industry.

California Oil World, 117 West 9th St., Los Angeles 15, Calif.



That's right, six—but turn the page upside down and look again.

BAKER CEMENT RETAINERS

are like that, too. You think you know all of their important applications—such as Re-cementing; Reducing Gas/Oil Ratios; Plugging Off Bottom Fluids; Squeeze Jobs; Cementing Bad Pipe; Plugging Back to Upper Zones; Testing Upper Cased Formations. And then, you find it can also be used as a successful Casing Bridge Plug or to Cement Off to Perforate for Productions. It might pay you to look on page 328 of the Composite Catalog, and it won't be necessary for you to turn the page upside down either.

Bill D. Elliot Joins Gardner-Denver Sales Staff

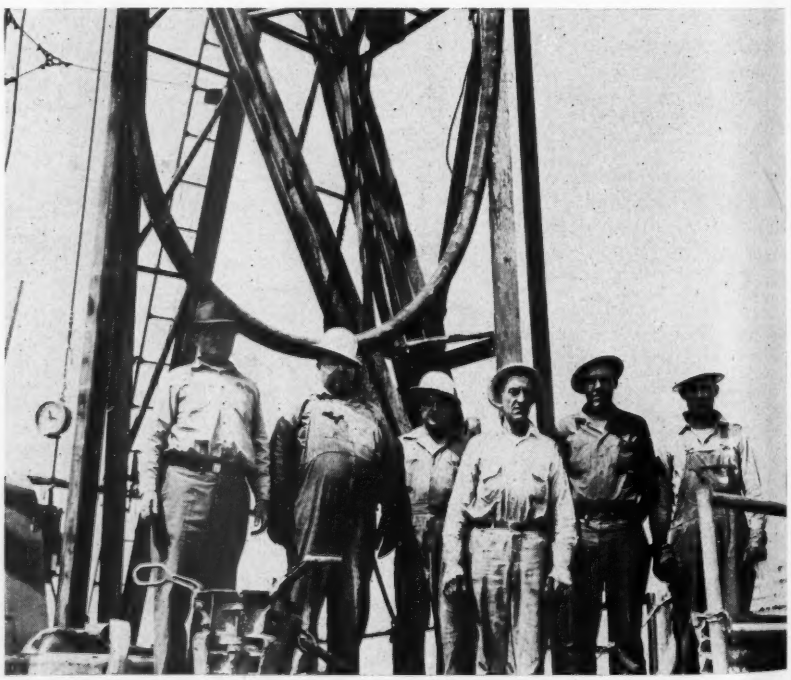
Gardner-Denver's Los Angeles Office announced recently the appointment of Bill D. Elliot as sales engineer. Mr. Elliot will be employed in the oilfield and industrial sales sections.

Bill Elliot

Following his schooling at Stanford University, Mr. Elliot worked for the National Supply Co., Los Angeles, prior to his career in the Army Air Corps. During the War years he saw service in Africa and India, where he was a first pilot and "Hump rider" for the Air Transport Command, delivering troops and supplies to the front lines.

From the new offices and plant at 3500 Union Pacific Ave., Los Angeles, Barton Jones, President of Barton Instrument Co., manufacturers of Bellows Actuated Flow Meters and Industrial Instruments, announces the appointment of Bushnell Controls & Equipment Co., 117 W. 9th St., Los Angeles, and 220 Bush St., San Francisco

Pictured above is the Abbott Jenks Drilling Company's unit which just completed the Jergins Texas No. 17 in the Edison field.



The crew on the Jergins Texas No. 17 well at Edison field, which was drilled by the Abbott Jenks Drilling Co. Left to right: Bert Clearwater, Tool Pusher; C. R. Jones; Gerald Nicholson; Joe Alley, Driller; and Max Sherrill.